Service
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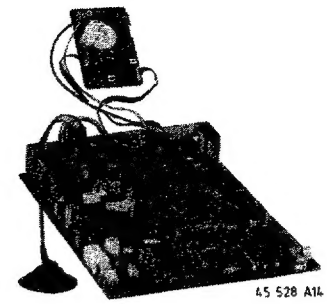

Service Manual

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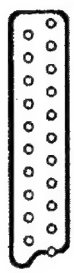
Technical specification

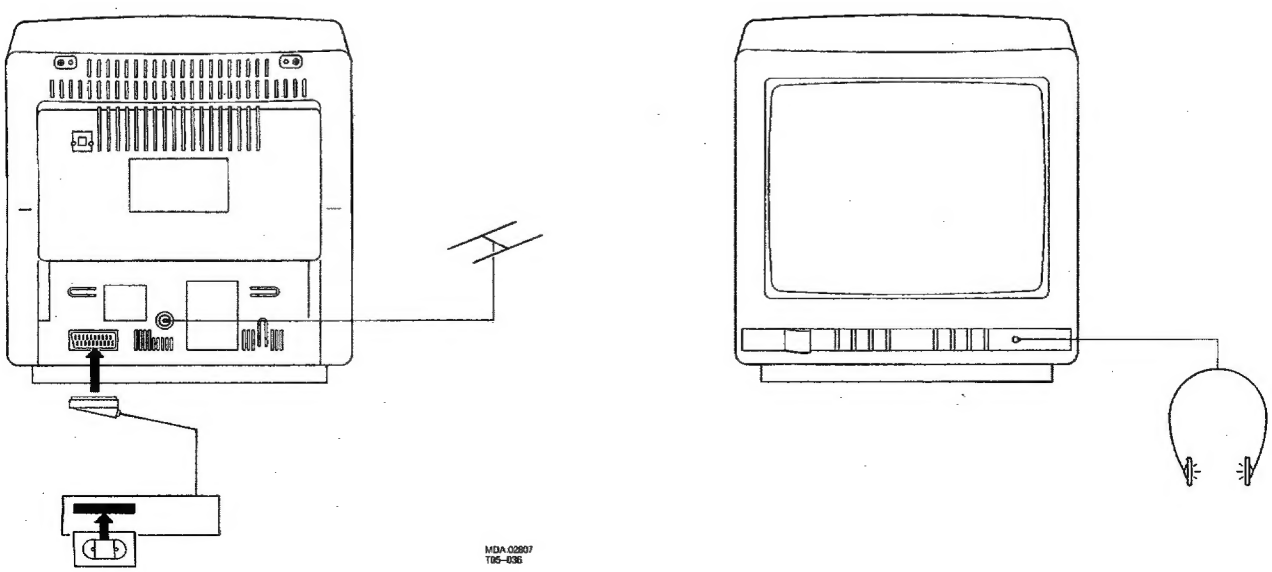
Mains voltage	: 220-240 V ± 10 %, 50 Hz ± 5 %
Aerial input impedance	: 75 Ω - coax
Minimum aerial input VHF	: 30µV
Minimum aerial input UHF	: 40µV
Maximum aerial input	: 180mV
Pull-in range colour sync	: ±300Hz
Pull-in range horizontal sync	: ±600Hz
Pull-in range vertical sync	: ±5Hz
Picture tube range	: 14", 15", 17" and 21"

Euroconnector:



1	-	Audio ⊖ R (0,5V RMS ≤ 1kΩ)
2	-	Audio ⊕ R (0,2 - 2V RMS ≥ 10kΩ)
3	-	Audio ⊖ L (0,5V RMS ≤ 1kΩ)
4	-	Audio ⊥
5	-	Blue ⊥
6	-	Audio ⊕ L (0,2 - 2V RMS ≥ 10kΩ)
7	-	Blue (0,7V_{pp}/75Ω)
8	-	CVBS-status 1 ⊕ (0-2V int.)(10-12V ext.)
9	-	Green ⊥
10	-	-
11	-	Green (0,7V_{pp}/75Ω)
12	-	-
13	-	Red ⊥
14	-	-
15	-	Red (0,7V_{pp}/75Ω)
16	-	RGB-status (0-0,4V int.)(1-3V ext. 75Ω)
17	-	CVBS ⊥
18	-	CVBS ⊥
19	-	CVBS ⊖ (1V_{pp}/75Ω)
20	-	CVBS ⊕ (1V_{pp}/75Ω)
21	-	Earthscreen

Head phone: 8 - 1000Ω 3.5 mm mini jack



MDA 02807
T05-036

Warnings

1. A set to be repaired should always be connected to the mains via a suitable isolating transformer.

2. Safety regulations demand that the set be restored to its original condition and that components identical with the original types be used.
Safety components are marked by the symbol ⚠ .

3. To prevent damage to ICs and transistors any flash-over of the EHT should be avoided.
To prevent damage to the picture tube the method, indicated in Fig. 1, has to be applied to discharge the picture tube. Make use of an EHT probe and a universal meter (position DC-V). Discharge until the reading of the meter is 0V (after approx. 30s).

4. **ESD**
All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair may reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools on the same potential.

5. Together with the deflection unit and the possible multipole unit the flat square picture tubes applied form one whole. The deflection and multipole units have been adjusted optimally in the factory.
Adjustment of these units during repair is thus not recommended.

6. The EHT cable has been bonded in the line output transformer. It can thus not be replaced.

7. Proceed with care when testing the EHT section and the picture tube.

8. Never replace any modules or any other parts while the set is switched on.

9. Wear safety goggles during replacement of the picture tube.

10. Use plastic instead of metal alignment tools.
This in order to preclude short-circuit or to prevent a specific circuit from being rendered unstable.

Remarks

1. Service default mode

The service default mode (SDM) is a fixed, defined state the set can be brought in. All controls are in a fixed position and the automatic switch-off feature is disabled. The set accepts all commands via the remote control or the local keyboard.
To switch on the SDM, connect pin 7 of IC7600 to ground and switch on the set with the mains switch.
The SDM can be left by switching the set into stand-by or by switching off the set with the mains switch.

2. The direct voltages and waveforms should be measured relative to the nearest earthing point on the printed circuit board.

3. The direct voltages and oscillograms are measured with a switched on servicce default mode.
Use a colour bar pattern of pattern generator PM5515 as input signal.

4. If necessary, the oscillograms and DC voltages are measured with (⊓) and without (⊓̸) aerial signal.
Voltages in the power supply section have been measured for both normal operation (⏻) and in the stand-by mode (⏻). These values have been indicated by means of the corresponding symbols.

5. The components, mentioned in the parts lists, are per position completely interchangeable with the components in the set, irrespective of the possible type indications.

6. The picture tube board is provided with printed spark gaps.
Each spark gap is arranged between an electrode of the picture tube and the aquadag coating.

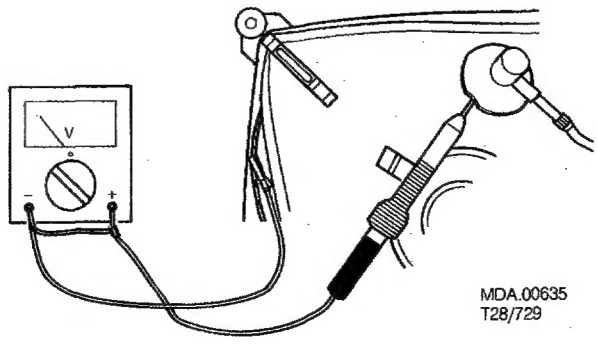


Fig. 1

7. Servicing of SMDs (Surface Mounted Devices)

7.1 General cautions on handling and storage.

a. Oxidation on the SMDs terminals results in poor soldering. Do not handle SMDs with bare hands.
b. Avoid for storage places that are sensitive to oxidation such as places with sulfur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity.
As a result the capacitance or resistance value of the SMDs may be affected.
c. Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

7.2 Removal of SMDs

a. Heat the solder (for 2-3 seconds) at each terminal of the chip. Small components can, by means of litz wire and a limited horizontal force, be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 2) or
b. While holding the SMD with a pair of tweezers take it off gently using the soldering iron's heat applied to each terminal (see Fig. 2B).
c. Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 2C).

Caution on removal:

a. When handling the soldering iron, use suitable pressure and be careful.
b. When removing the chip, do not use undue force with the pair of tweezers.
c. The soldering iron to be used (approx. 30 W), must preferably be provided with a thermal control (soldering temperature about 225 to 250°C).
d. The chip, once removed, must **never** be used again.

7.3 Attachment of SMDs

a. Locate the SMD on the solder lands by means of tweezers and solder the component at one side. Ensure that the component is positioned well on the solder lands (see Fig. 3A).
b. Next complete the soldering of the terminals of the component (see Fig. 3B).

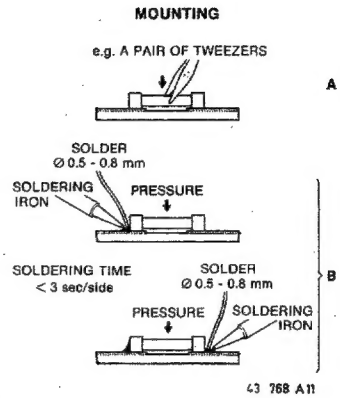


Fig. 3

Caution on attachment:

a. When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering must be as quick as possible; care must be taken to avoid damage to the terminals and the body itself.
b. Keep the SMD's body in contact with the printed board when soldering.
c. The soldering iron to be used (approx. 30 W) must preferably be provided with a thermal control (soldering temperature about 225 to 250°C).
d. Soldering should not be done outside the solder land.
e. Soldering flux (of rosin) may be used but should not be acidic.
f. After soldering, let the SMD cool down gradually at room temperature.
g. The quantity of solder must be proportional with the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 4).

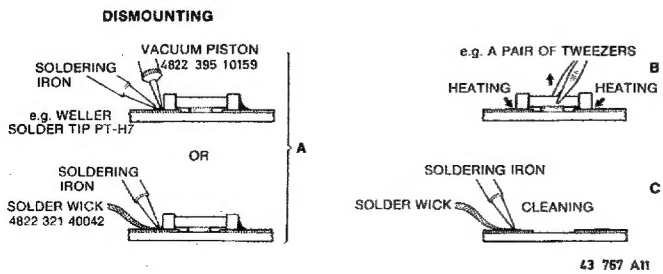


Fig. 2

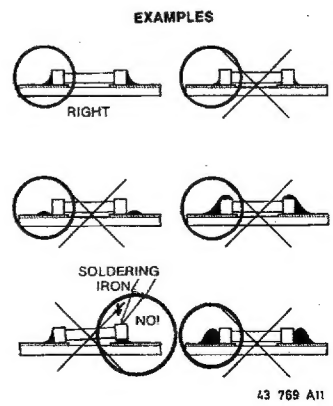


Fig. 4

Mechanical instructions

1. Servicing position

To facilitate troubleshooting and repairing the set, the chassis can, after disconnection of the degaussing coil, be pulled out of the cabinet, turned 180°, and placed behind it (see Fig. 5).

2. Flat square picture tube fixation.

Demounting the picture tube:
Loosen the nuts by turning them with a box spanner hexagon (10 mm) **clockwise**, (see Fig. 6).

Mounting the picture tube:
Turn the spindles **counterclockwise** into the mask with a box spanner hexagon (4 mm).
Locate the picture tube in the mask. The easiest way is placing the cabinet with the front facing down.
Position the picture tube in the middle of the mask.
Turn the spindles **clockwise** until the nut can be fixed onto the spindle.
Turn the nut **counterclockwise** finger-tight against the picture tube fixation.
Turn the spindle **clockwise** until the whole has been fixed tightly (the nut must not turn any more).

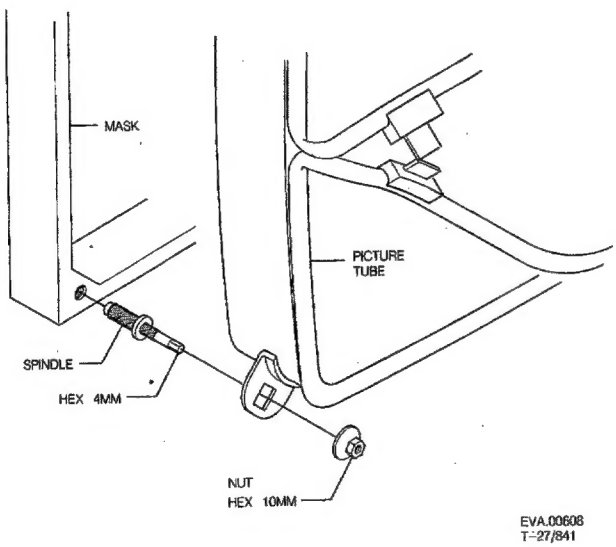
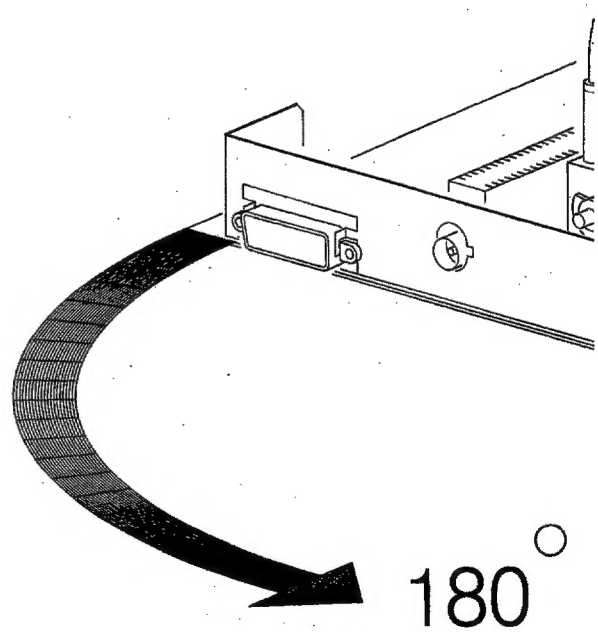


Fig. 6



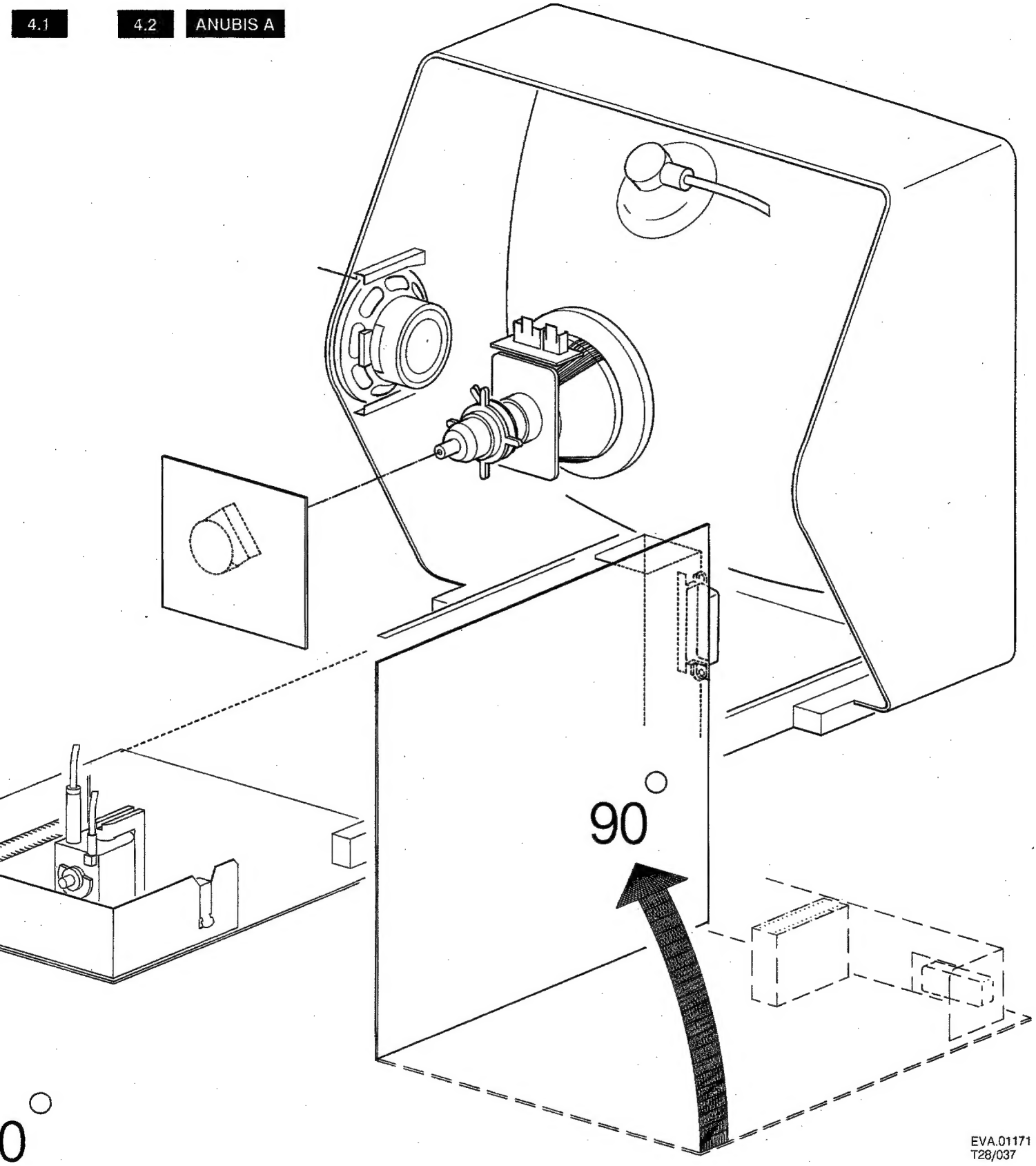
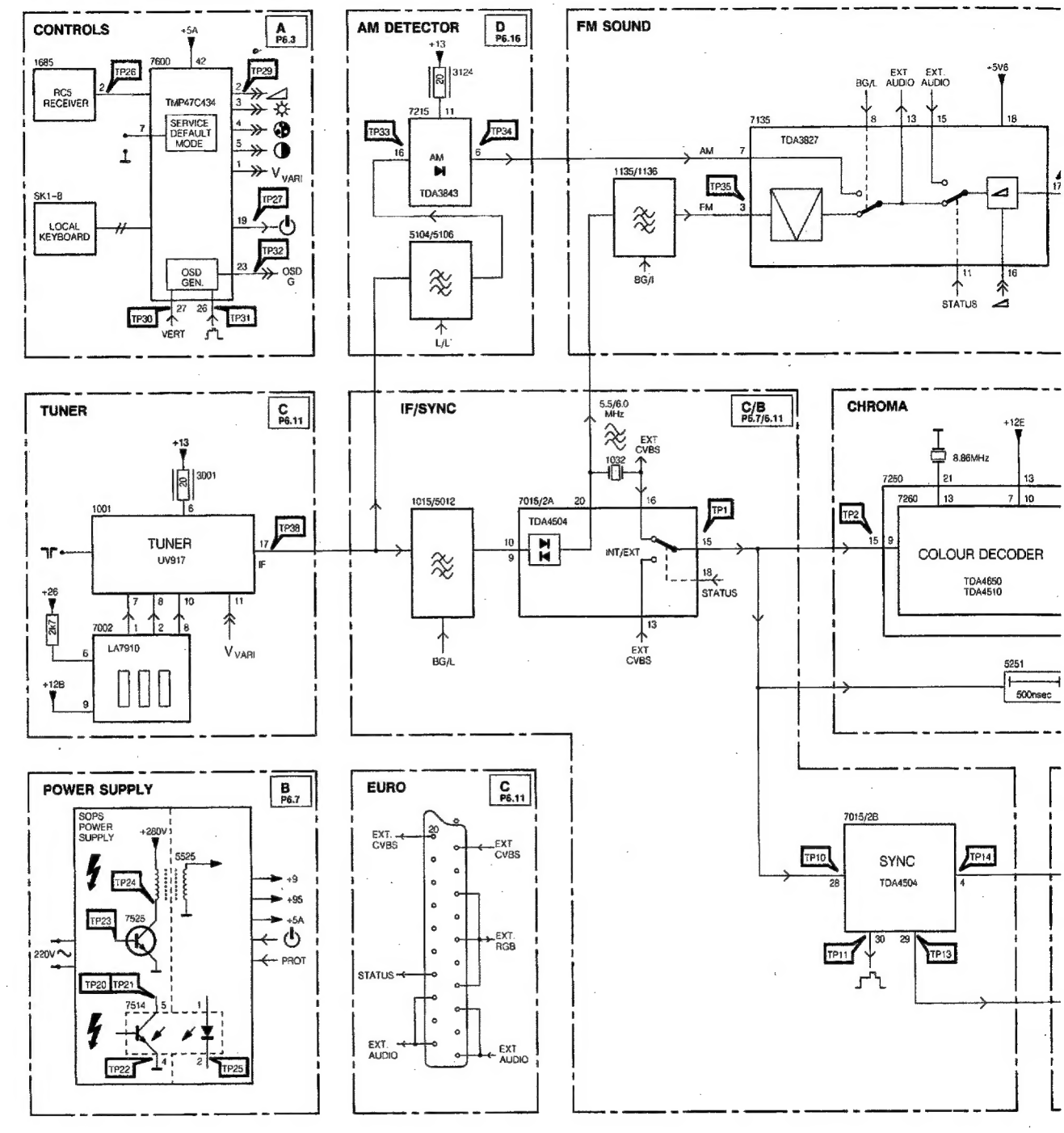


Fig. 5

Blockdiagram Block schaltbild



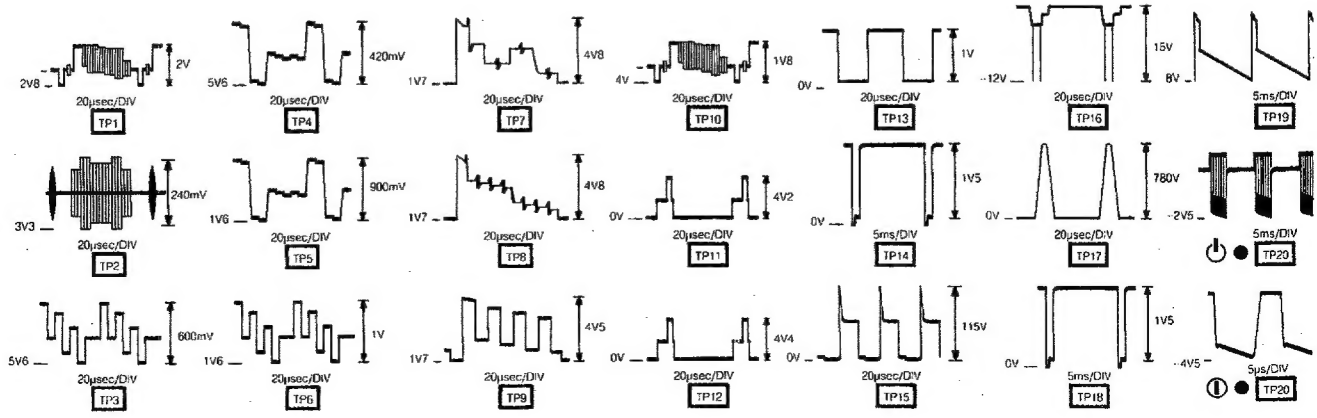
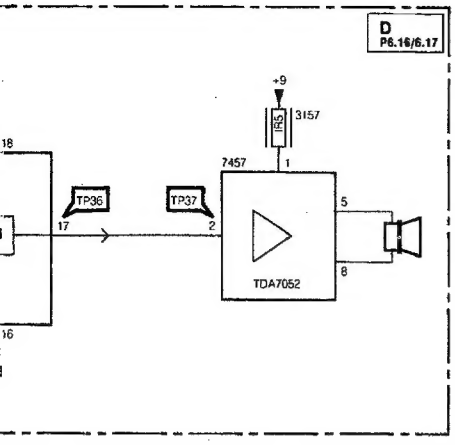
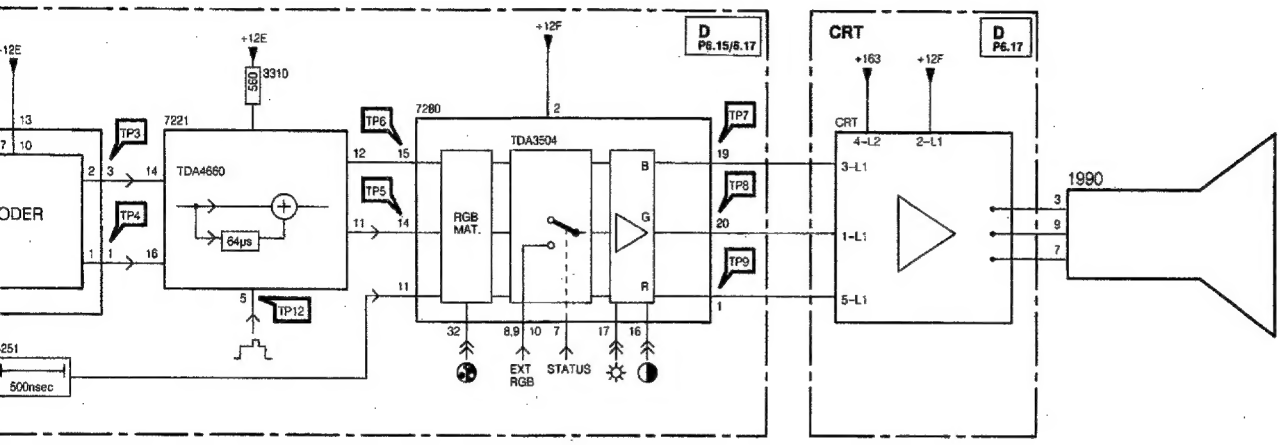
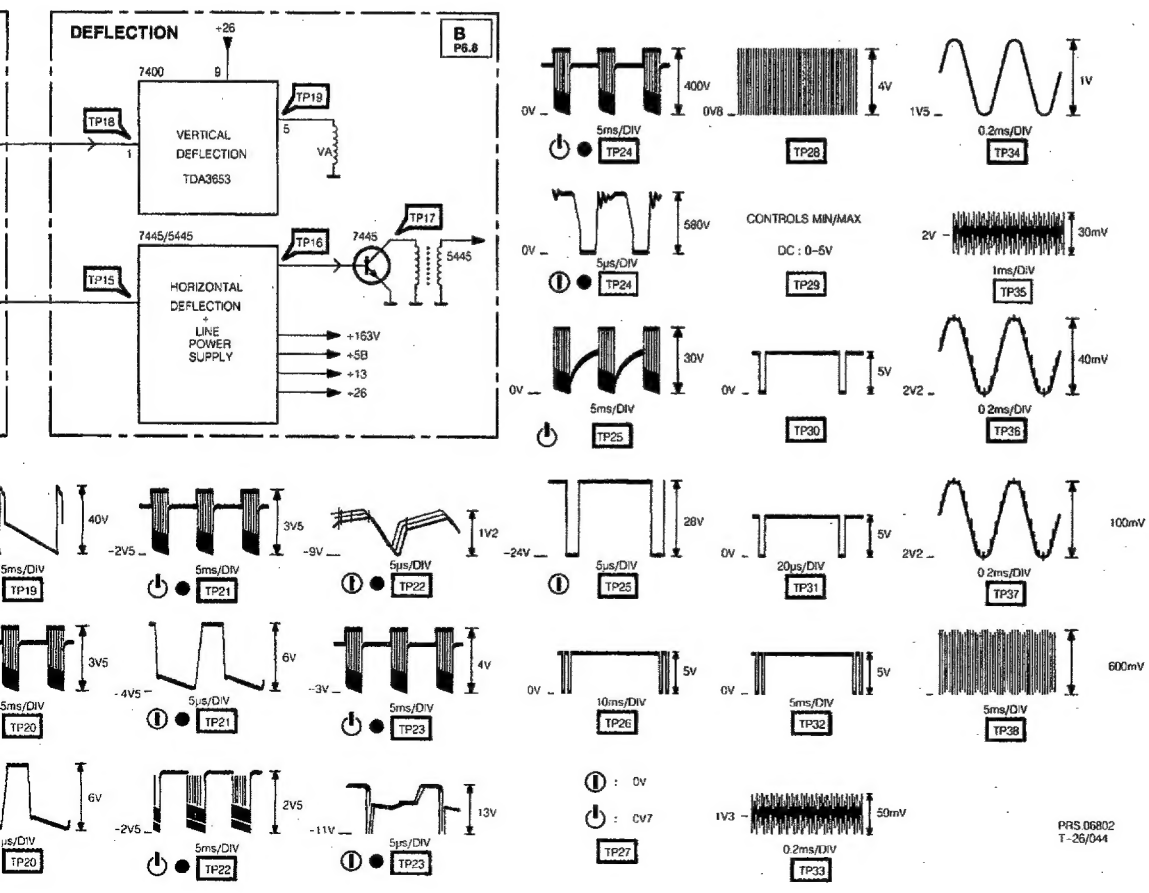


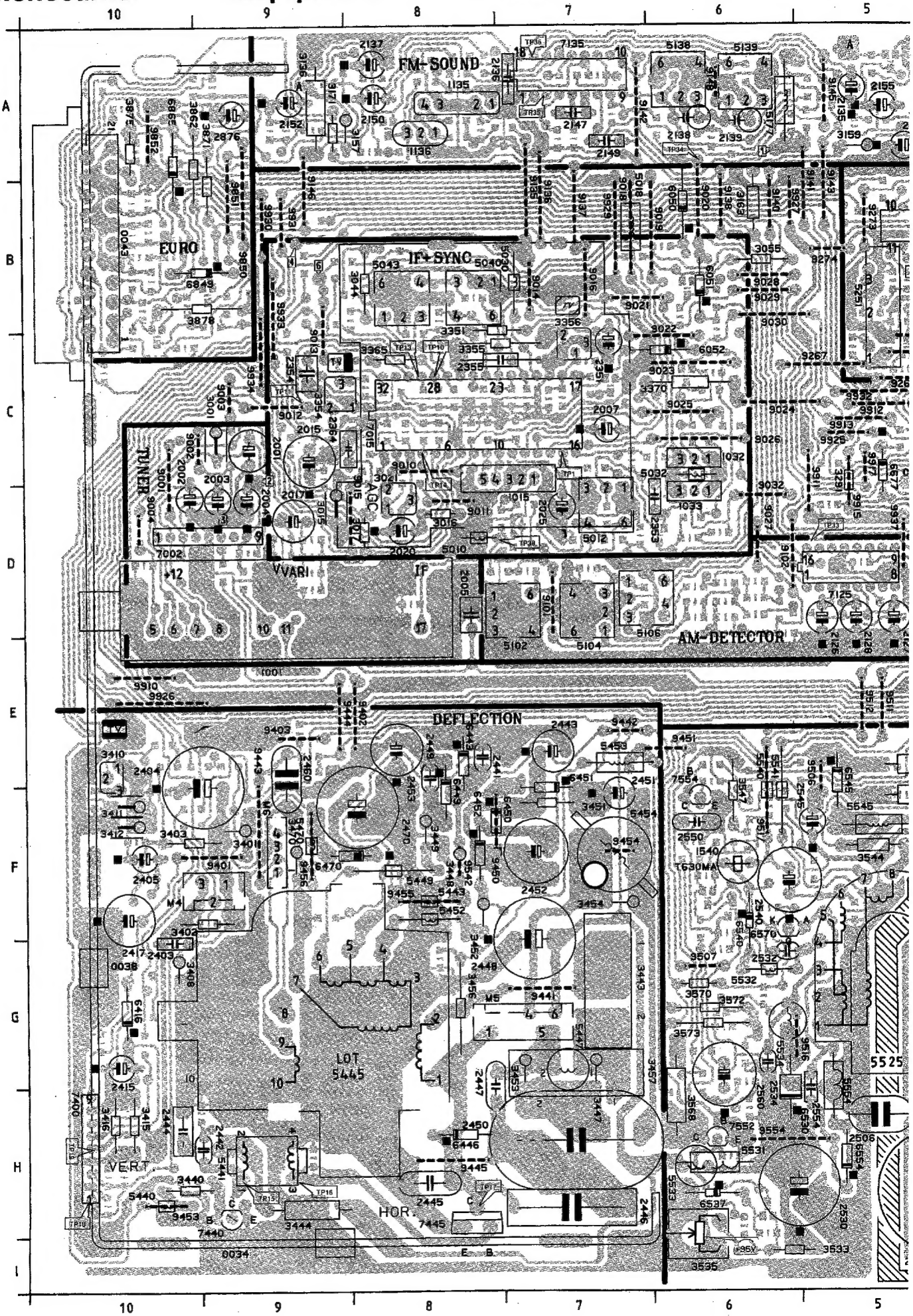
Schéma-bloc


D
P6.16/6.17
+9
IR5
3157
7457
TP36
TP37
TDA7052

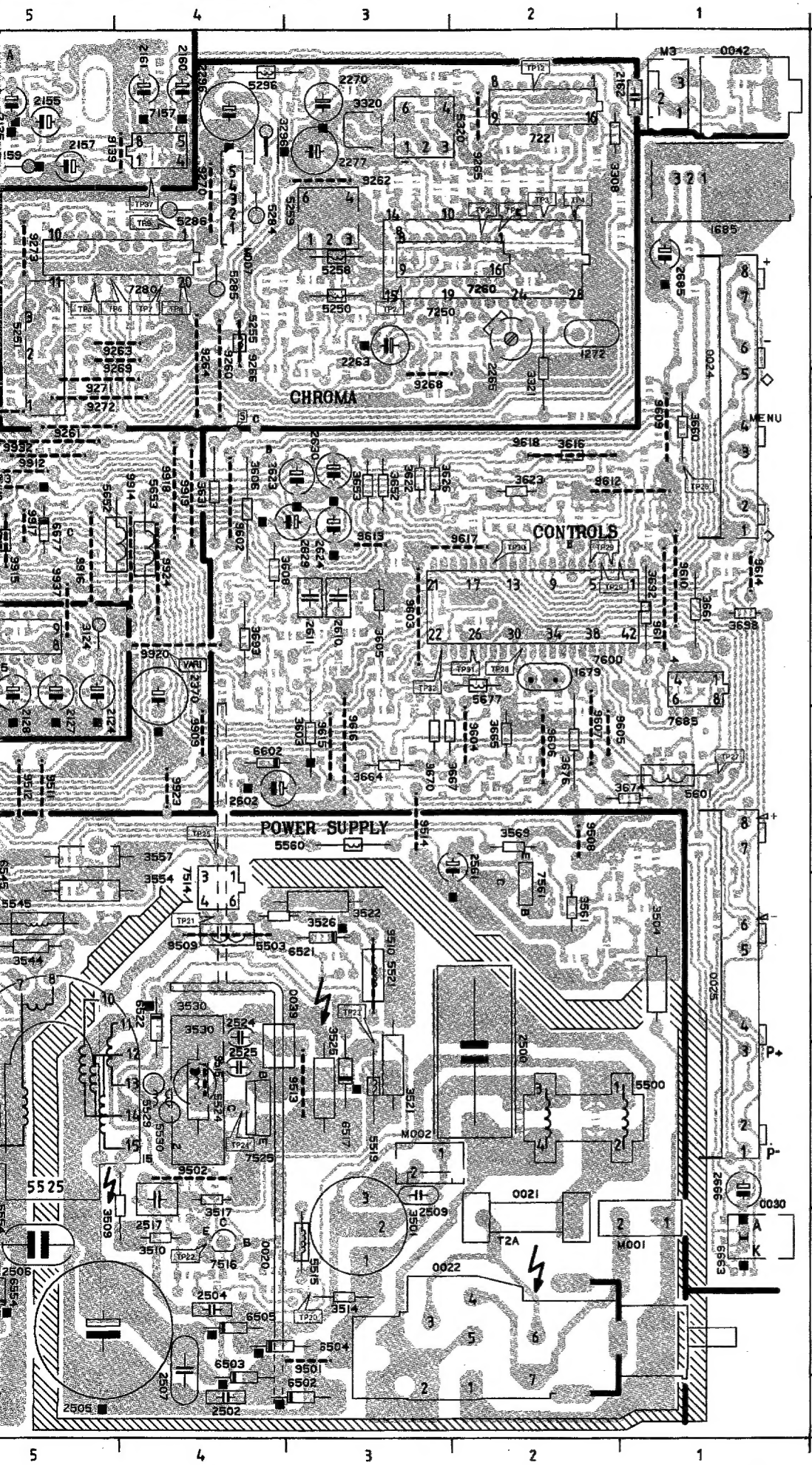

D
P6.15/6.17
CRT
D
P6.17
+12E
+12F
+163
560
3310
7221
TDA4660
64µs
7280
TDA3504
RGB MAT.
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP12
CRT
4-L2
2-L1
3-L1
1-L1
5-L1
1990
500nsec
EXT RGB
STATUS


DEFLECTION
B
P6.6
+26
7400
VERTICAL DEFLECTION TDA3653
TP18
TP19
7445/5445
HORIZONTAL DEFLECTION + LINE POWER SUPPLY
TP15
TP16
TP17
7445
5445
+163V
+5B
+13
+26
CONTROLS MIN/MAX
DC : 0-5V
TP24
TP25
TP26
TP27
TP28
TP29
TP30
TP31
TP32
TP33
TP34
TP35
TP36
TP37
TP38
PRS 06802
T-26/044

Monocarrier Hauptplatine Châssis



5.3 5.4 ANUBIS A



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0022	I2	3365	C8	5560	E3	9506	E5				
0024	C1	3370	C6	5601	E1	9507	G6				
0025	G1	3401	F9	5652	D5	9508	E2				
0042	A1	3402	F9	5653	D4	9509	F4				
0043	C10	3403	F10	5677	D2	9510	F3				
1001	D10	3408	G10	6050	B6	9511	E5				
1015	C7	3410	E10	6051	B6	9512	E5				
1032	C6	3411	F10	6052	C6	9513	G3				
1033	D6	3412	F10	6416	G10	9514	E3				
1135	A8	3415	H10	6443	E8	9515	G4				
1136	A8	3416	H10	6446	H8	9516	G6				
1272	B2	3440	H10	6449	F8	9517	F6				
1540	F6	3443	G7	6450	F8	9554	H6				
1679	D2	3444	H9	6451	F7	9602	C4				
1685	A1	3447	G7	6452	F8	9603	D3				
2001	C9	3448	F8	6470	F8	9604	E2				
2002	D10	3449	F8	6502	I3	9605	E2				
2003	D9	3451	F7	6503	I4	9606	E2				
2004	D9	3452	F8	6504	H4	9607	E2				
2005	D8	3453	G7	6505	H4	9609	C1				
2007	C7	3454	F7	6517	G3	9610	D1				
2015	C9	3456	G8	6521	F3	9611	D1				
2017	D9	3457	G7	6522	F4	9612	C1				
2020	D8	3470	F9	6530	H6	9613	D3				
2025	D7	3501	H3	6537	H6	9614	D1				
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2126	D5	3509	G4	6545	E5	9616	E3				
2127	D5	3510	H4	6554	H5	9617	D2				
2128	D5	3514	H3	6570	F6	9618	C2				
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2138	A6	3522	F3	6677	C5	9852	A10				
2139	A6	3525	G3	6849	B9	9909	E4				
2147	A7	3526	F4	6865	A10	9910	E10				
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2160	A4	3547	F6	7221	A2	9916	D5				
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2162	A1	3557	E5	7280	B4	9918	C4				
2263	B3	3561	F2	7400	H10	9919	C4				
2265	B2	3568	H6	7440	H9	9920	D4				
2270	A3	3569	E2	7445	H8	9923	E4				
2277	A3	3570	G8	7514	E4	9924	D4				
2296	A4	3572	G6	7516	H4	9925	C5				
2351	C7	3573	G8	7525	G4	9926	E10				
2353	D8	3603	E3	7552	H6	9927	B6				
2354	C9	3605	D3	7554	F6	9929	B7				
2355	C7	3606	C4	7561	E2	9930	B9				
2364	C8	3608	D4	7600	D1	9931	B9				
2370	D4	3616	C2	7685	D1	9932	C5				
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2404	F9	3623	C2	9002	C9	9934	C9				
2405	F10	3626	C3	9003	C9	9937	D5				
2415	G10	3631	C4	9004	D10	M001	H1				
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2443	E7	3661	D1	9013	B9	M4	F9				
2444	H10	3664	E3	9014	B7	M5	G8				
2445	H8	3665	E2	9015	D8	M6	F9				
2446	H7	3667	E3	9016	B7						
2447	H8	3670	E3	9018	B7	TP1	C7				
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2449	E8	3676	E2	9020	B6	TP3	B2				
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2453	E8	3862	A10	9024	C6	TP7	B4				
2460	E9	3871	B9	9025	C6	TP8	B4				
2470	F8	3875	A10	9026	C6	TP9	B4				
2500	G2	3878	B9	9027	D6	TP10	C8				
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2504	H4	5012	D7	9029	B6	TP12	A2				
2505	H5	5018	B7	9030	B6	TP13	C8				
2506	H5	5030	B7	9032	D6	TP14	C8				
2507	H4	5032	C8	9101	D7	TP15	H9				
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2554	H5	5255	B4	9145	A5	TP26	C1				
2560	G6	5258	B3	9146	B9	TP27	E1				
2561	E2	5259	B3	9148	A6	TP28	D2				
2602	E4	5284	B4	9260	B4	TP29	D2				
2610	D3	5285	B4	9261	C5	TP30	D2				
2611	D3	5286	B4	9262	A3	TP31	D2				
2623	C3	5296	A4	9263	B4	TP32	D3				
2624	C3	5320	A3	9264	B4	TP34	A6				
2629	C3	5440	H10	9265	A2	TP35	A7				
2630	C3	5441	H9	9266	B4	TP36	A7				
2666	G1	5443	F8	9267	C5	TP37	B4				
2685	B1	5445	G9	9268	C3						
2876	A9	5447	G7	9269	B4						
3001	C9	5449	F8	9270	A4						
3015	D8	5452	F8	9271	C5						
3016	D8	5453	E7	9272	C5						
3017	D8	5454	F7	9273	B5						
3021	D8	5470	F9	9274	B5						
3044	B8	5500	G1	9401	F9						
3055	B6	5503	F4	9402	E8						
3124	D5	5515	H3	9403	E9						
3136	A9	5519	G3	9441	G7						
3157	A8	5521	F3	9442	E7						
3159	A5	5524	G4	9443	F9						
3163	B6	5525	G5	9444	E9						
3171	A9	5529	G4	9445	H8						
3291	D5	5530	G4	9450	F8						
3296	A4	5531	H6	9451	E6						
3308	A2	5532	G6	9452	F8						
3320	A3	5533	H6	9453	H10						
3321	C2	5534	G6	9454	F7						
3351	C8	5540	F6	9455	F8						
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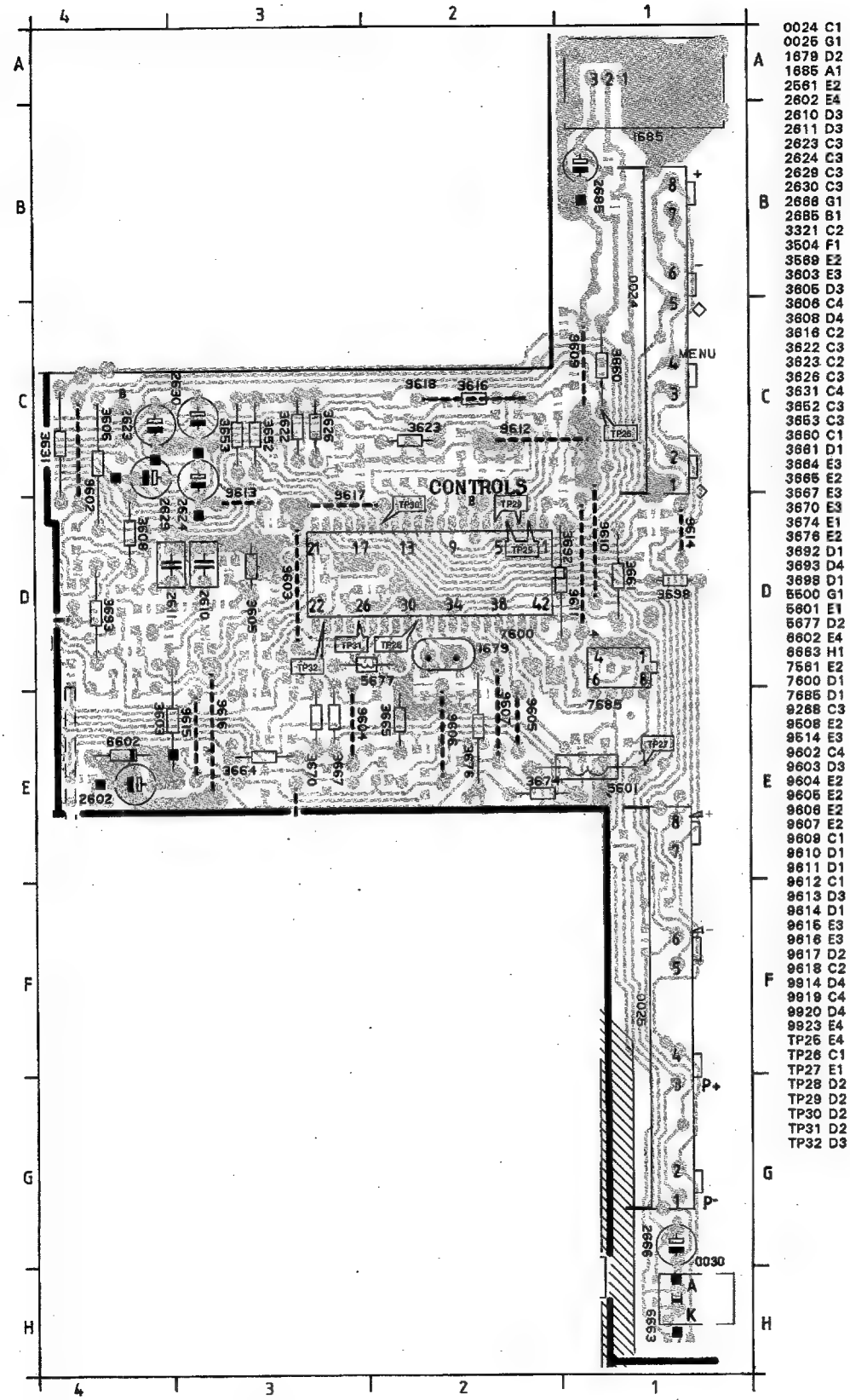
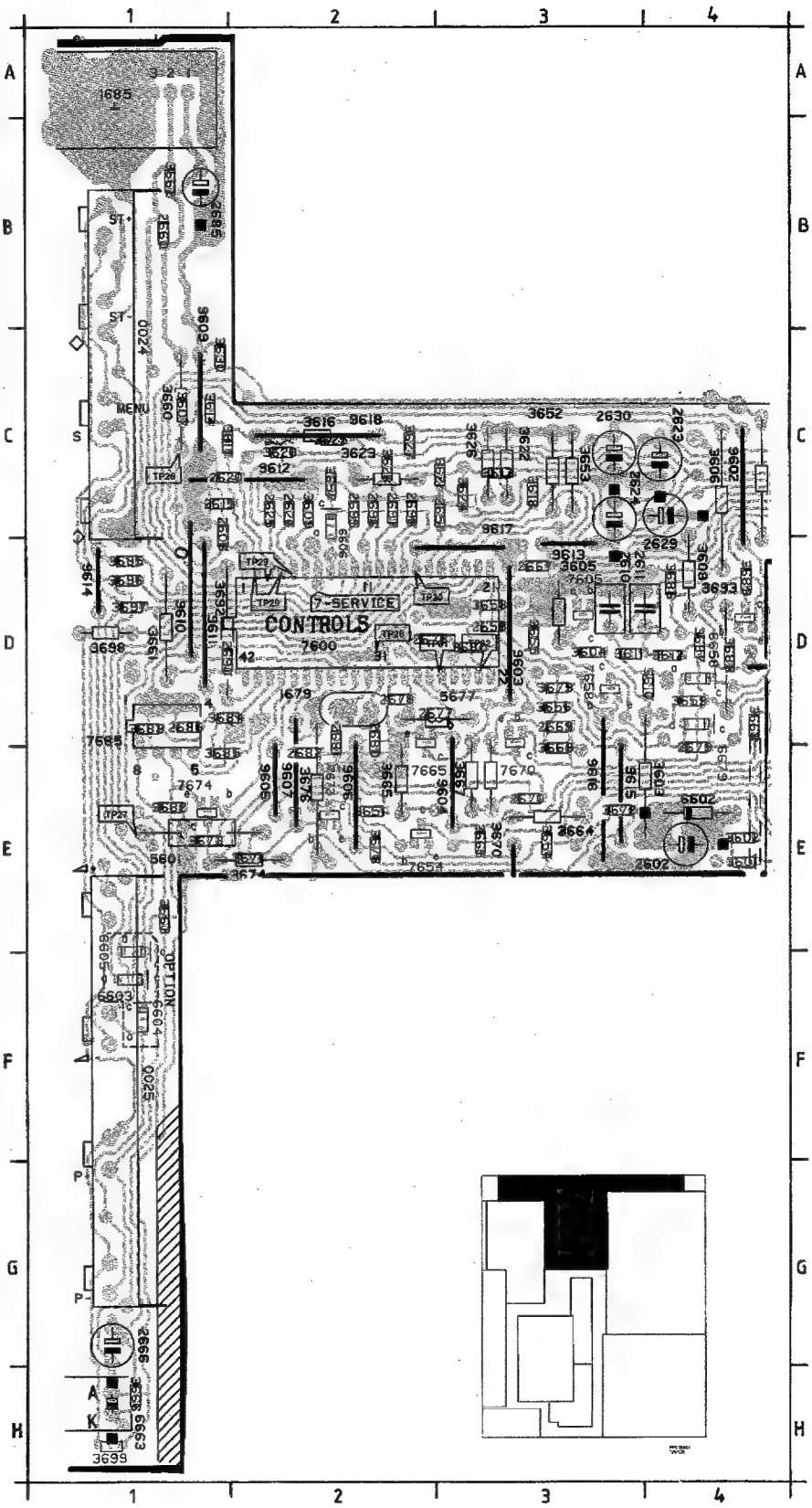
3355	C7	5545	F5	9501	H3						


CONTROLS
MENU
P+
P-
0024 C1
0025 G1
1679 D2
1685 A1
2561 E2
2602 E4
2610 D3
2611 D3
2623 C3
2624 C3
2629 C3
2630 C3
2666 G1
2685 B1
3321 C2
3504 F1
3569 E2
3603 E3
3605 D3
3606 C4
3608 D4
3616 C2
3622 C3
3623 C2
3626 C3
3631 C4
3652 C3
3653 C3
3660 C1
3661 D1
3664 E3
3665 E2
3667 E3
3670 E3
3674 E1
3676 E2
3692 D1
3693 D4
3698 D1
5500 G1
5601 E1
5677 D2
6602 E4
6663 H1
7561 E2
7600 D1
7685 D1
9268 C3
9508 E2
9514 E3
9602 C4
9603 D3
9604 E2
9605 E2
9606 E2
9607 E2
9609 C1
9610 D1
9611 D1
9612 C1
9613 D3
9614 D1
9615 E3
9616 E3
9617 D2
9618 C2
9914 D4
9919 C4
9920 D4
9923 E4
TP26 E4
TP26 C1
TP27 E1
TP28 D2
TP29 D2
TP30 D2
TP31 D2
TP32 D3

Commandes



0024 C1
0025 G1
1679 D2
1685 A1
2267 C3
2279 B1
2280 B1
2310 C3
2561 E2
2602 E4
2606 C1
2610 D3
2611 D3
2615 C1
2620 C1
2623 C3
2624 C3
2625 C2
2626 C2
2629 C3
2630 C3
2651 C2
2658 D3
2660 B1
2665 E3
2666 G1
2667 D3
2669 D3
2670 E3
2676 D2
2677 D2
2678 D2
2679 E4
2680 D2
2681 D2
2682 E2
2685 B1
2686 D1
2690 D1
2695 C2
2696 C2
2697 C2
2698 C2
3160 A1
3161 A1
3307 C2
3316 C3
3321 C2
3565 E1
3566 F1
3601 E4
3602 E4
3603 E3
3604 D3
3605 D3
3606 C4
3607 C1
3608 D4
3609 C2
3610 D3
3611 D3
3612 D3
3613 C3
3614 C1
3615 C4
3616 C2
3617 C1
3618 C3
3620 C2
3621 C2
3622 C3
3623 C2
3624 C2
3625 C2
3626 C3
3627 C2
3628 C2
3630 C1
3631 C4
3651 E2
3652 C3
3653 C3
3654 E3
3655 D3
3656 D3
3657 C2
3658 D3
3659 D4
3660 C1
3661 D1
3662 B1
3663 E1
3664 E3
3665 E2
3666 H1
3667 E3
3668 D4
3669 E3
3670 E3
3671 E1
3672 E3
3673 E1
3674 E1
3678 E2
3679 D3
3680 D3
3682 E1
3683 D1
3684 D1
3685 E1
3686 D3
3687 D4
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3696 D1
3697 D1
3698 D1
3699 H1
5500 G1
5560 E3
5601 E1
5653 D4
5677 D2
6562 F1
6565 E1
6602 E4
6603 F1
6604 F1
6605 E1
6606 C2
6658 D4
6663 H1
6679 D4
7256 C3
7514 E4
7561 E2
7583 E2
7600 D1
7605 D3
7654 E2
7658 D3
7665 D2
7670 D3
7672 E2
7674 E1
7685 D1
7686 D4
9268 C3
9508 E2
9514 E3
9602 C4
9603 D3
9604 E2
9605 E2
9606 E2
9607 E2
9609 C1
9610 D1
9611 D1
9612 C1
9613 D3
9614 D1
9615 E3
9616 E3
9617 D2
9618 C2
9909 E4
9914 D4
9918 C4
9919 C4
9920 D4
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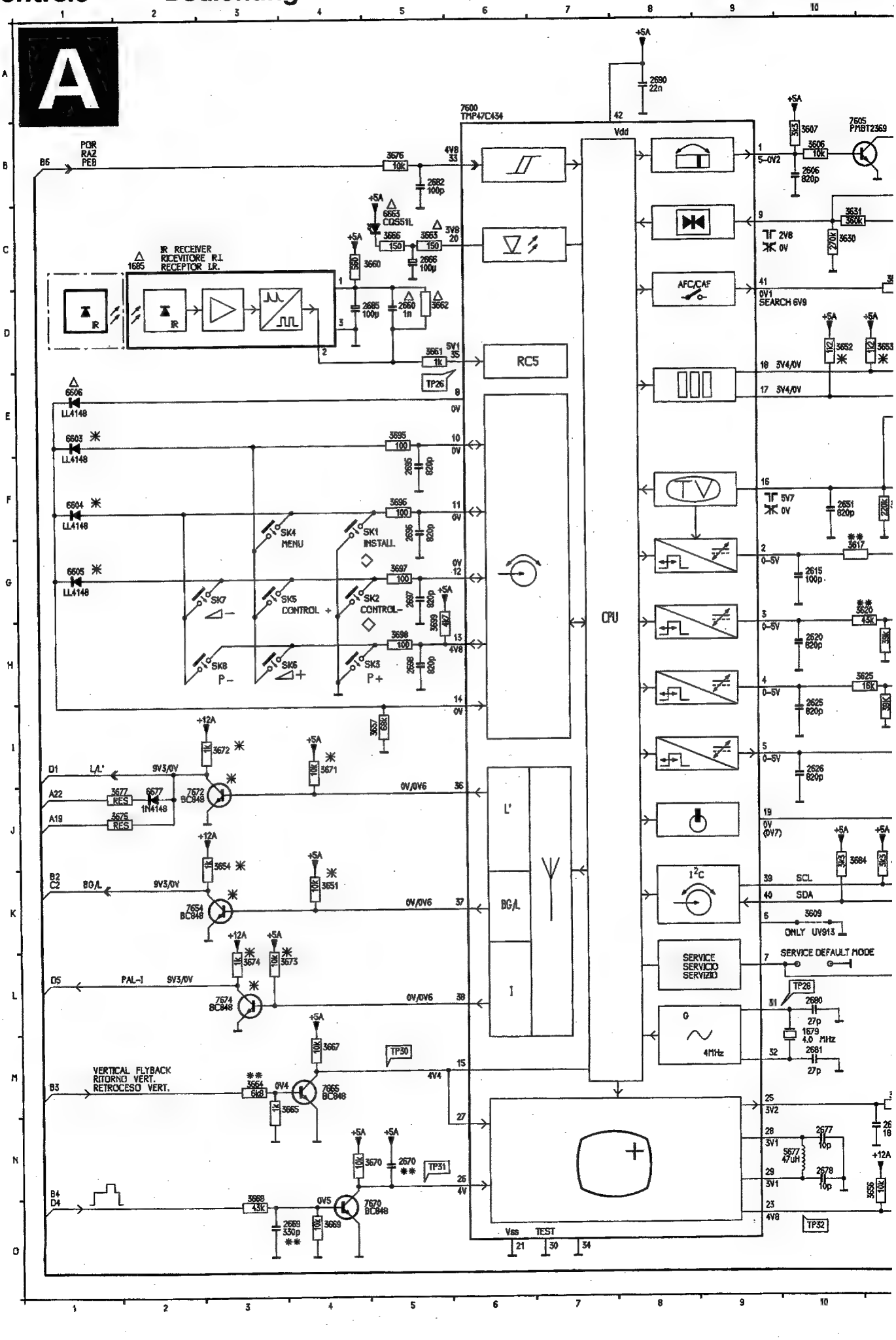
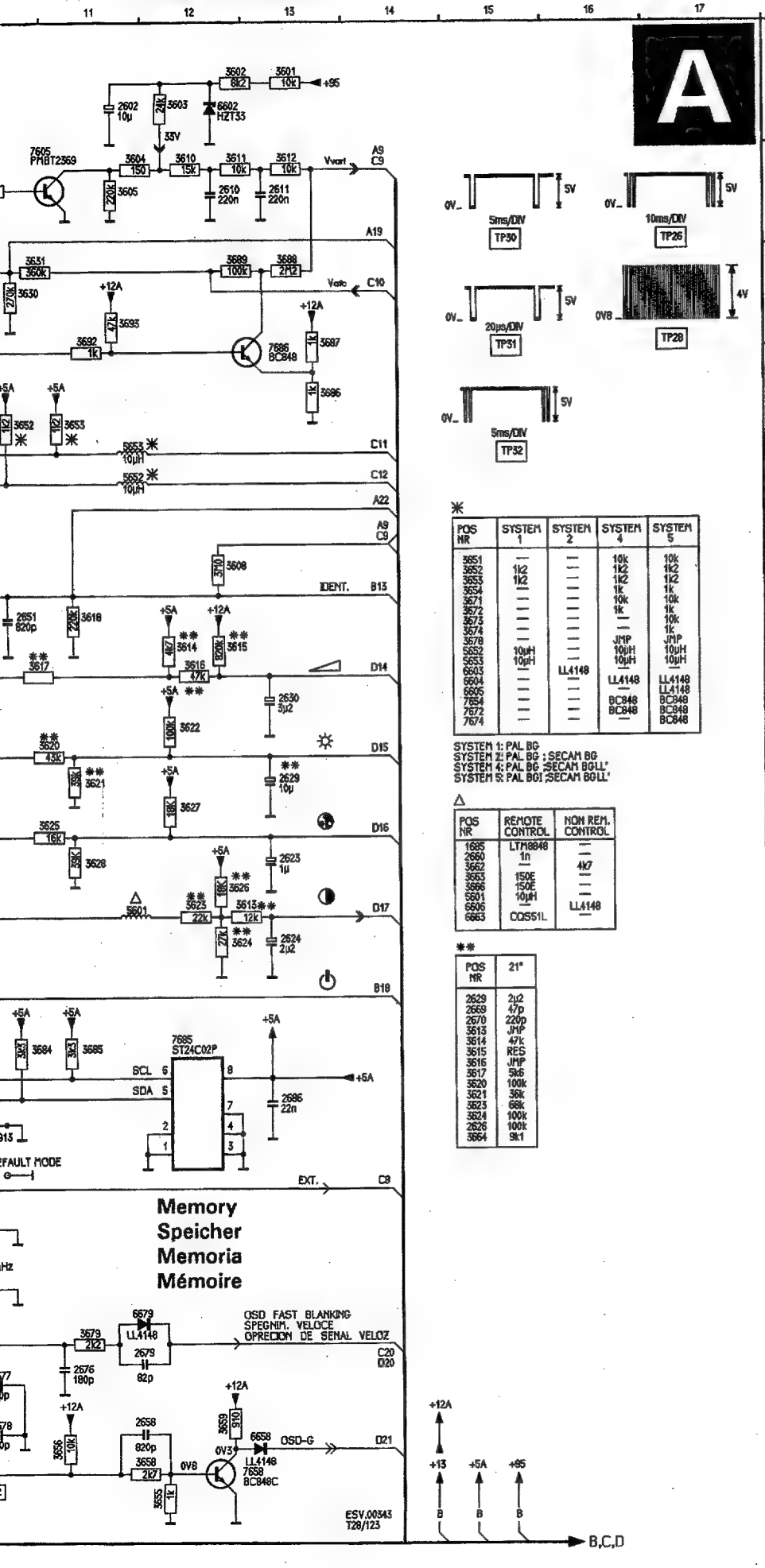
TP27 E1
TP28 D2
TP29 D2
TP30 D2
TP31 D2
TP32 D3


A
7600
TMP47C434
Vdd
CPU
RC5
IR RECEIVER
RICEVITORE R.I.
RECEPTOR I.R.
SK1 INSTALL.
SK2 CONTROL-
SK3 P+
SK4 MENU
SK5 CONTROL +
SK6
SK7
SK8 P-
TV
AFC/CAF
SERVICE
SERVICIO
SERVIZIO
SERVICE DEFAULT MODE
ONLY UV913
SCL
SDA
4MHz
VERTICAL FLYBACK
RITORNO VERT.
RETROCESO VERT.
PAL-I
Vss
TEST
TP26
TP28
TP30
TP31
TP32



POS NR	SYSTEM 1	SYSTEM 2	SYSTEM 4	SYSTEM 5
3651	—	—	10k	10k
3652	1k2	—	1k2	1k2
3653	1k2	—	1k2	1k2
3654	—	—	1k	1k
3671	—	—	10k	10k
3672	—	—	1k	1k
3673	—	—	—	10k
3674	—	—	—	1k
3678	—	—	JMP	JMP
5652	10µH	—	10µH	10µH
5653	10µH	—	10µH	10µH
6603	—	LL4148	—	—
6604	—	—	LL4148	LL4148
6605	—	—	—	LL4148
7654	—	—	BC848	BC848
7672	—	—	BC848	BC848
7674	—	—	—	BC848

SYSTEM 1: PAL BG
SYSTEM 2: PAL BG ; SECAM BG
SYSTEM 4: PAL BG ;SECAM BG LL'
SYSTEM 5: PAL BG1 ;SECAM BG LL'

△

POS NR	REMOTE CONTROL	NON REM. CONTROL
1685	LTM8848	—
2660	1n	—
3662	—	4K7
3663	150E	—
3666	150E	—
5601	10µH	—
6606	—	LL4148
6663	CQS51L	—

**

POS NR	21"
2629	2µ2
2669	47p
2670	220p
3613	JMP
3614	47k
3615	RES
3616	JMP
3617	5k6
3620	100k
3621	36k
3623	68k
3624	100k
3626	100k
3664	9k1

SK1	F4
SK2	G4
SK3	H4
SK4	F3
SK5	G3
SK6	H3
SK7	G3
SK8	H3
1679	M10
1685	C2
2602	A11
2606	B10
2610	B12
2611	B13
2615	G10
2620	H10
2623	I13
2624	I13
2625	I10
2626	I10
2629	H13
2630	G13
2651	F10
2658	N11
2660	D5
2666	C5
2669	Q3
2670	N5
2676	N11
2677	N10
2678	N10
2679	N11
2680	L10
2681	M10
2682	M5
2685	D4
2686	K13
2690	A8
2695	F5
2696	F5
2697	G5
2698	H5
3601	A13
3602	A12
3603	A12
3604	B11
3605	B11
3606	B10
3607	B10
3608	F12
3609	K10
3610	B12
3611	B12
3612	B13
3613	I13
3614	F12
3615	F12
3616	G12
3617	G10
3618	F11
3620	G11
3621	H11
3622	G12
3623	I12
3624	I12
3625	H11
3626	I12
3627	H12
3628	I11
3630	C10
3631	C10
3651	K4
3652	D10
3653	D11
3654	J3
3655	C12
3656	N11
3657	I5
3658	C11
3659	N12
3660	C5
3661	D5
3662	D5
3663	C5
3664	M3
3665	M3
3666	C5
3667	M4
3668	Q3
3669	Q4
3670	N4
3671	I4
3672	I3
3673	L3
3674	L3
3675	J2
3676	B5
3677	J2
3679	M11
3684	J10
3685	J11
3686	D13
3687	C13
3688	C13
3689	C12
3692	C11
3693	C11
3695	E5
3696	F5
3697	G5
3698	H5
3699	H5
4 MHz	M9
5601	I11
5652	E11
5653	E11
5677	N10
6602	A12
6603	E1
6604	F1
6605	G1
6606	E1
6658	N13
6663	C5
6677	J2
6679	M11
7600	A6
7605	B10
7654	K2
7658	D12
7665	M4
7670	Q4
7672	J3
7674	L3
7685	J12
7686	D13

0021	H2	2290	B4	2686	D1	3354	C8	3623	C2	5545	F5	7670	D3	9925	C5				
0022	I2	2291	B5	2690	D1	3355	C7	3624	C2	5554	H5	7672	E2	9926	E10				
0024	C1	2292	B5	2695	C2	3356	C7	3625	C2	5560	E3	7674	E1	9927	B6				
0025	G1	2293	B5	2696	C2	3357	B9	3626	C3	5601	E1	7685	D1	9929	B7				
0042	A1	2294	B5	2697	C2	3358	C9	3627	C2	5652	D5	7686	D4	9930	B9				
0043	C10	2296	A4	2698	C2	3359	B9	3628	C2	5653	D4	7875	A10	9931	B9				
1001	D10	2297	A4	2850	C10	3360	B9	3630	C1	5677	D2	7876	C10	9932	C5				
1015	C7	2298	B4	2852	B10	3362	C9	3631	C4	6014	D7	7877	B9	9933	B9				
1032	C6	2299	A4	2853	A10	3363	C9	3651	E2	6019	D9	9001	C10	9934	C9				
1033	D6	2300	B4	2860	C10	3364	D8	3652	C3	6020	D9	9002	C9	9937	D5				
1135	A8	2301	B2	2875	A10	3365	C8	3653	C3	6034	C6	9003	C9	M001	H1				
1138	A8	2302	A2	2876	A9	3370	C8	3654	E3	6042	B8	9004	D10	M002	G3				
1272	B2	2303	A2	3001	C9	3401	F9	3655	D3	6050	B6	9010	C8	M007	A4				
1540	F8	2304	A2	3002	D9	3402	F9	3656	D3	6051	B8	9011	D8	M3	A1				
1679	D2	2305	A2	3003	D9	3403	F10	3657	C2	6052	C8	9012	C9	M4	F9				
1685	A1	2306	A3	3004	D9	3404	F10	3658	D3	6053	C6	9013	B9	M5	G8				
2001	C9	2307	A3	3010	D7	3405	F10	3659	D4	6115	D6	9014	B7	M6	F9				
2002	D10	2309	B2	3011	D7	3406	E10	3660	C1	6116	D6	9015	D8						
2003	D9	2310	C3	3012	D7	3407	E10	3661	D1	6119	D6	9016	B7	TP1	C7				
2004	D9	2321	B2	3015	D9	3408	G10	3662	B1	6120	D6	9018	B7	TP2	B3				
2005	D8	2350	C8	3016	D8	3409	F10	3663	E1	6135	A8	9019	B6	TP3	B2				
2006	D10	2351	C7	3017	D8	3410	E10	3664	E3	6170	A8	9020	B6	TP4	B2				
2007	C7	2352	C8	3018	D9	3411	F10	3665	E2	6172	A5	9021	B7	TP5	B5				
2008	D8	2353	D6	3019	D9	3412	F10	3666	H1	6289	E9	9022	C6	TP6	B5				
2009	B7	2354	C9	3020	D9	3413	G10	3667	E3	6306	A2	9023	C6	TP7	B4				
2010	D7	2355	C7	3021	D8	3414	F10	3668	D4	6365	C8	9024	C6	TP8	B4				
2011	D7	2356	C8	3022	D8	3415	H10	3669	E3	6370	C7	9025	C6	TP9	B4				
2013	D7	2359	C8	3023	C8	3416	H10	3670	E3	6415	G10	9026	C6	TP10	C8				
2014	D7	2364	C8	3024	C7	3417	F10	3671	E1	6416	G10	9027	D6	TP11	C9				
2015	C9	2366	C8	3025	C7	3418	E10	3672	E3	6443	E8	9028	B6	TP12	A2				
2016	C8	2367	C8	3026	C7	3419	F10	3673	E1	6446	H8	9029	B6	TP13	C8				
2017	D9	2368	C8	3027	D8	3440	H10	3674	E1	6449	F8	9030	B6	TP14	C8				
2018	D9	2370	D4	3028	D8	3442	H10	3675	D5	6450	F8	9032	D6	TP15	H9				
2019	C8	2371	C8	3029	C6	3443	G7	3676	E2	6451	F7	9101	D7	TP16	H9				
2020	D8	2401	H10	3030	C6	3444	H9	3677	C5	6452	F8	9102	D6	TP17	H8				
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2022	C8	2403	G10	3032	C6	3446	F9	3679	D3	6502	I3	9136	B7	TP19	H10				
2025	D7	2404	F9	3033	C6	3447	G7	3680	D3	6503	I4	9137	B7	TP20	H3				
2026	C8	2405	F10	3034	C7	3448	F8	3682	E1	6504	H4	9138	B6	TP21	F4				
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2037	C7	2415	G10	3037	B8	3451	F7	3685	E1	6513	F8	9141	B5	TP24	G4				
2038	C7	2416	G10	3038	C7	3452	F8	3686	D3	6514	F3	9142	A7	TP25	E4				
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2043	B8	2440	H10	3043	B9	3454	F7	3688	D4	6516	F6	9145	A5	TP27	E1				
2044	B8	2441	E8	3044	B8	3455	G8	3689	D4	6517	G3	9146	B9	TP28	D2				
2101	D8	2442	H9	3049	C8	3456	G8	3692	D1	6521	F3	9148	A6	TP29	D2				
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2104	D7	2444	H10	3051	C6	3460	E9	3695	D1	6523	G4	9261	C5	TP31	D2				
2110	D7	2445	H8	3052	B6	3461	E9	3696	D1	6530	H6	9262	A3	TP32	D3				
2115	E8	2446	H7	3053	B6	3465	E9	3697	D1	6537	H6	9263	B4	TP34	A6				
2117	E6	2447	H8	3054	B7	3470	F9	3698	D1	6540	F6	9264	B4	TP35	A7				
2118	D6	2448	G7	3055	B6	3501	H3	3699	H1	6545	E5	9265	A2	TP36	A7				
2120	D8	2449	E8	3101	D5	3504	F1	3850	A10	6549	F5	9266	B4	TP37	B4				
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2145	A7	2506	H5	3141	A6	3525	G3	3875	A10	6602	E4	9443	F9						
2146	A7	2507	H4	3142	A8	3526	F4	3876	A10	6603	F1	9444	E9						
2147	A7	2509	G3	3143	A5	3530	G4	3878	B9	6604	F1	9445	H8						
2148	A7	2511	H4	3148	A7	3530	G4	3879	C10	6605	E1	9450	F8						
2149	A7	2514	F4	3149	A7	3533	I6	3880	B10	6606	C2	9451	E6						
2150	A8	2515	F4	3150	A9	3534	I6	3881	B9	6658	D4	9452	F8						
2152	A9	2517	G4	3151	A7	3535	I6	3882	B9	6663	H1	9453	H10						
2153	A9	2520	F3	3152	A9	3536	H6	3883	B10	6677	C5	9454	F7						
2154	A5	2522	F4	3154	A5	3544	F5	3901	C5	6679	D4	9455	F8						
2155	A5	2523	G4	3155	A5	3547	F6	3902	B9	6849	B9	9456	F9						
2157	A5	2524	F4	3156	A5	3549	F6	5010	D8	6850	B10	9501	H3						
2158	A4	2525	G4	3157	A8	3550	E6	5012	D7	6851	B10	9502	G4						
2160	A4	2530	H6	3158	A9	3551	H6	5018	B7	6852	B10	9506	E5						
2161	A4	2532	G6	3159	A5	3552	F6	5030	B7	6853	B10	9507	G6						
2162	A1	2533	I6	3160	A1	3553	H6	5032	C6	6854	B10	9508	E2						
2164	A5	2534	G6	3161	A1	3554	F5	5040	B8	6855	B10	9509	F4						
2169	A7	2536	H6	3162	A4	3555	G6	5043	B8	6865	A10	9510	F3						
2170	A8	2540	F8	3163	B6	3556	F6	5102	D8	7002	D10	9511	E5						
2171	A8	2545	F5	3169	A8	3557	E5	5104	D7	7015	C8	9512	E5						
2172	A6	2547	F6	3170	A8	3558	F5	5108	D7	7027	D6	9513	G3						
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2175	A6	2553	F5	3172	A8	3560	F2	5139	A6	7038	C7	9515	G4						
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2255	B5	2556	F6	3176	A6	3563	E6	5251	C5	7135	A7	9554	H6						
2256	B4	2560	G6	3251	C5	3565	E1	5255	B4	7156	A9	9602	C4						
2257	B4	2561	E2	3252	B5	3566	F1	5258	B3	7157	A4	9603	D3						
2258	B3	2562	F5	3253	B5	3567	F2	5259	B3	7158	A5	9604	E2						
2259	B3	2563	F8	3289	C5	3568	H6	5284	B4	7170	A8	9605	E2						
2260	B3	2573	G6	3290	C5	3569	E2	5285	B4	7221	A2	9606	E2						
2261	B3	2602	E4	3291	D5	3570	G6	5286	B4	7250	B2	9607	E2						
2262	A3	2606	C1	3292	C5	3571	G6	5296	A4	7251	B3	9609	C1						
2263	B3	2610	D3	3293	B5	3572	G6	5320	A3	7255	A3	9610	D1						
2264	A3	2611	D3	3294	D5	3573	G6	5440	H10	7256	C3	9611	D1						
2265	B2	2615	C1	3296	A4	3574	G6	5441	H9	7280	B4	9612	C1						
2266	B2	2620	C1	3303	A2	3591	E6	5443	F8	7290	C5	9613	D3						
2267	C3	2623	C3	3304	A2	3593	E6	5445	G9	7400	H10	9614	D1						
2268	B3	2624	C3	3305	B4	3601	E4	5447	G7	7440	H9	9615	E3						
2269	B2	2625	C2	3306	B3	3602	E4	5449	F8	7445	H8	9616	E3						
2270	A3	2626	C2	3307	C2	3603	E3	5452	F8	7512	H4	9617	D2						
2271	A3	2629	C3	3308	A2	3604	D3	5453	E7	7514	E4	9618	C2						
2272	A2	2630	C3	3309	A2	3605	D3	5454	F7	7515	H4	9850	B9						
2273	A2	2651	C2	3310	A3	3606	C4	5470	F9	7516	H4	9851	B9						
2274	A2	2658	D3	3311	A4	3607	C1	5500	G1	7525	G4	9852	A10						
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2276	A3	2665	E3	3313	B4	3609	C2	5515	H3	7552	H6	9910	E10						
2277	A3	2666	G1	3314	B4	3610	D3	5519	G3	7553	F2	9911	D5						
2279	B1	2667	D3	3315	B4	3611	D3	5521	F3	7554	F6	9912	C5						
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2281	B4	2670	E3	3317	B3	3613	C3	5525	G5	7556	F6	9914	D4						
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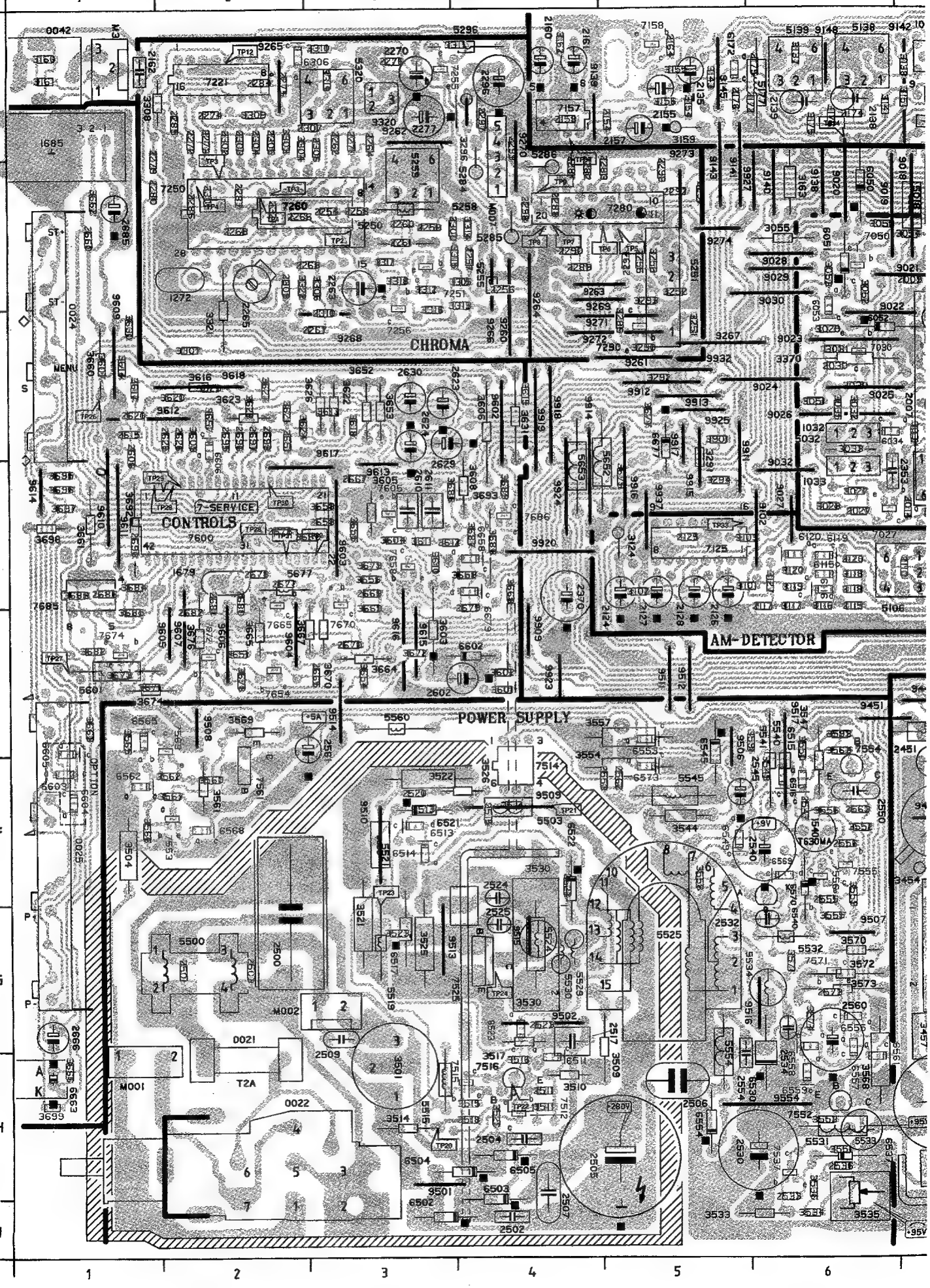
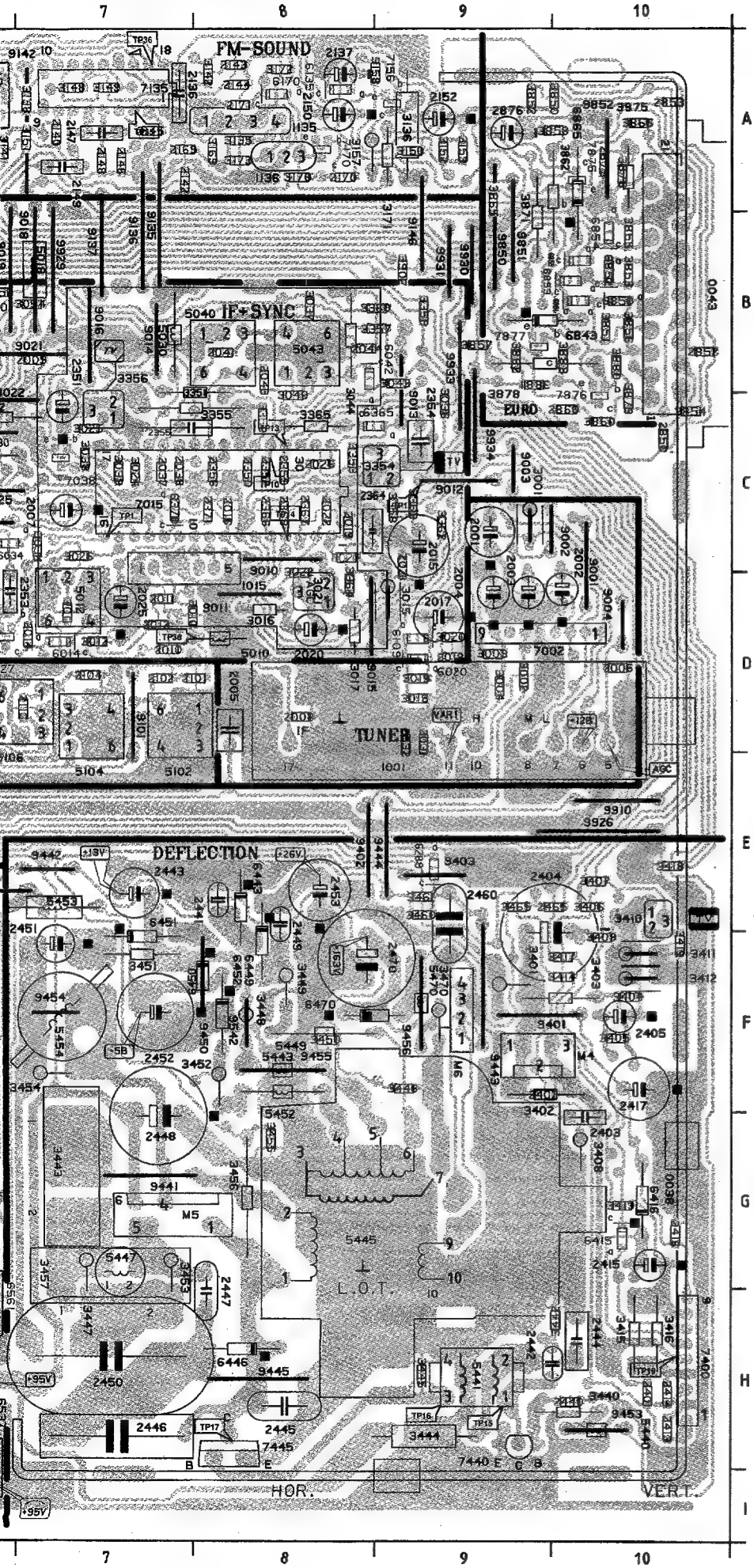
2283	B5	2677	D2	3319	A3	3615	C4	5530	G4	7563	E2	9916	D5						
2284	A2	2678	D2	3320	A3	3616	C2	5531	H6	7571	G6	9917	C5						
2285	A2	2679	E4	3321	C2	3617	C1	5532	G6	7600	D1	9918	C4						
2286	B2	2680	D2	3322	B2	3618	C3	5533	H6	7605	D3	9919	C4						
2287	B2	2681	D2	3350	C8	3620	C2	5534	G6	7654	E2	9920	D4						
2288	B4	2682	E2	3351	C8	3621	C2	5540	F6	7658	D3	9923	E4						
2289	B4	2685	B1	3353	C8	3622	C3	5541	F6	7665	D2	9924	D4						

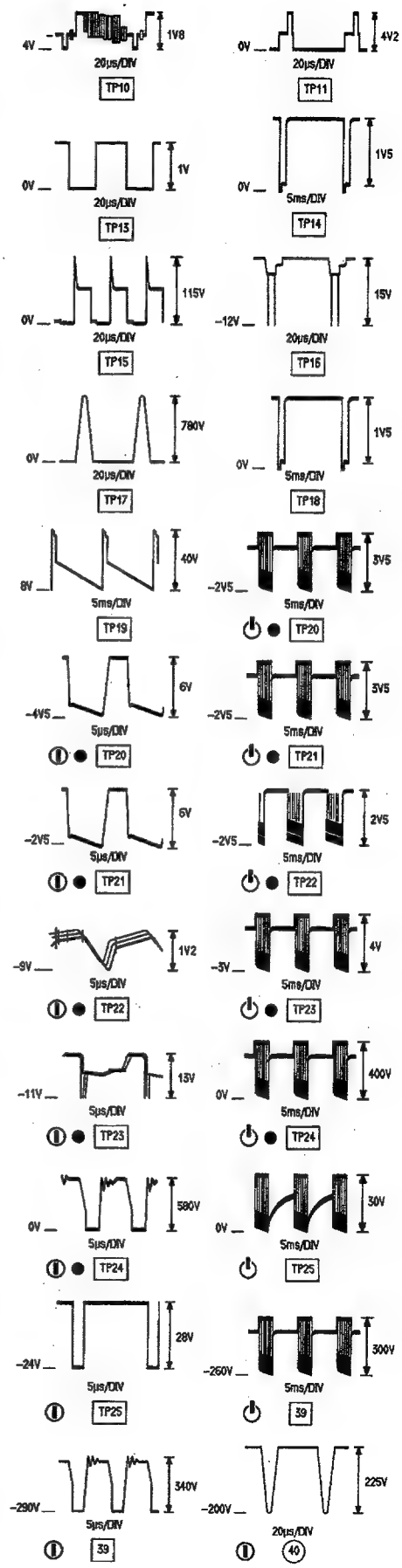
Monocarrier Hauptplatine Châssis

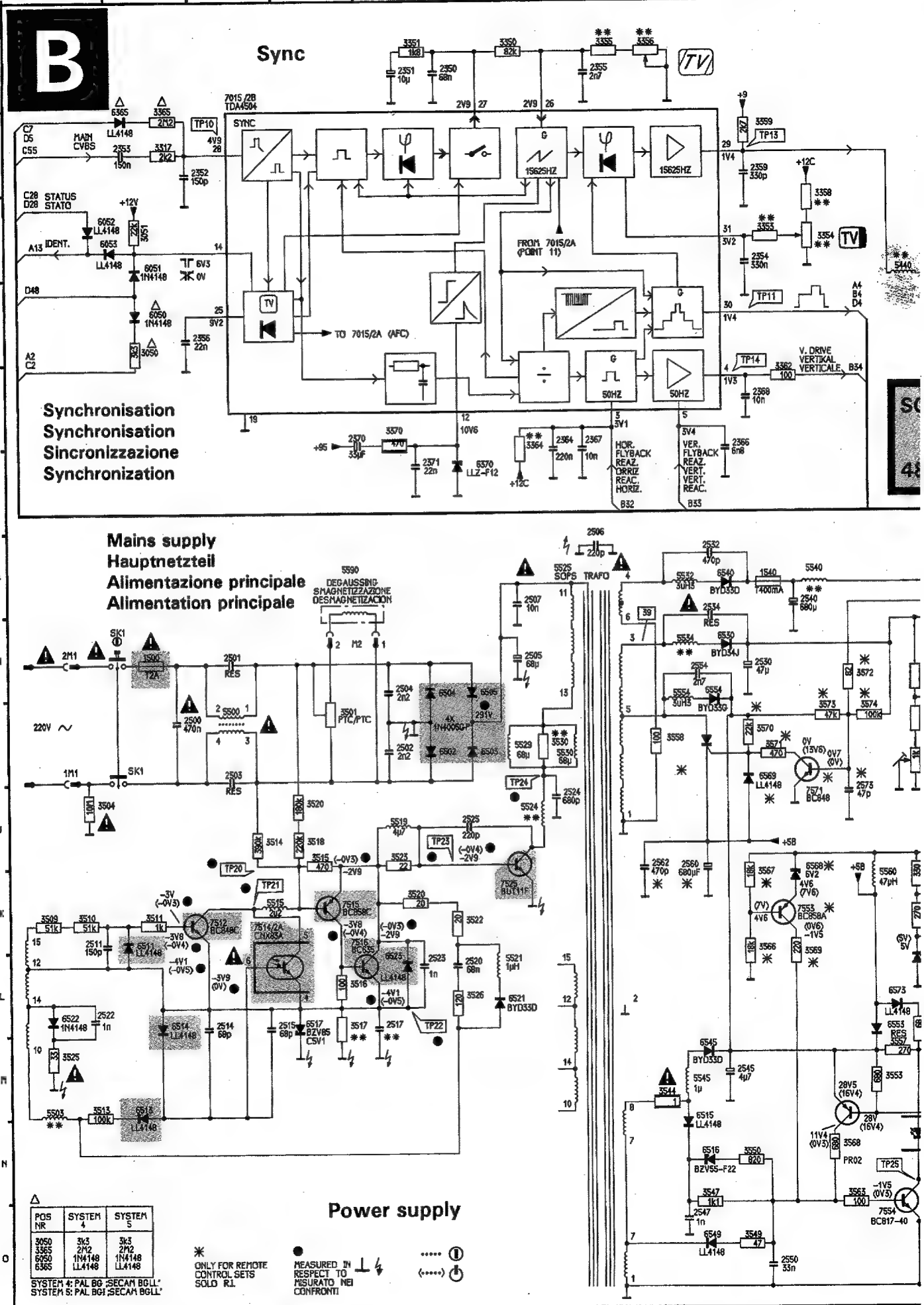
9925	C5
9926	E10
9927	B6
9929	B7
9930	B9
9931	B9
9932	C5
9933	B9
9934	C9
9937	D5
M001	H1
M002	G3
M007	A4
M3	A1
M4	F9
M5	G8
M6	F9

TP1	C7
TP2	B3
TP3	B2
TP4	B2
TP5	B5
TP6	B5
TP7	B4
TP8	B4
TP9	B4
TP10	C8
TP11	C9
TP12	A2
TP13	C8
TP14	C8
TP15	H9
TP16	H9
TP17	H8
TP18	H10
TP19	H10
TP20	H3
TP21	F4
TP22	H4
TP23	F3
TP24	G4
TP25	E4
TP26	C1
TP27	E1
TP28	D2
TP29	D2
TP30	D2
TP31	D2
TP32	D3
TP34	A6
TP35	A7
TP36	A7
TP37	B4

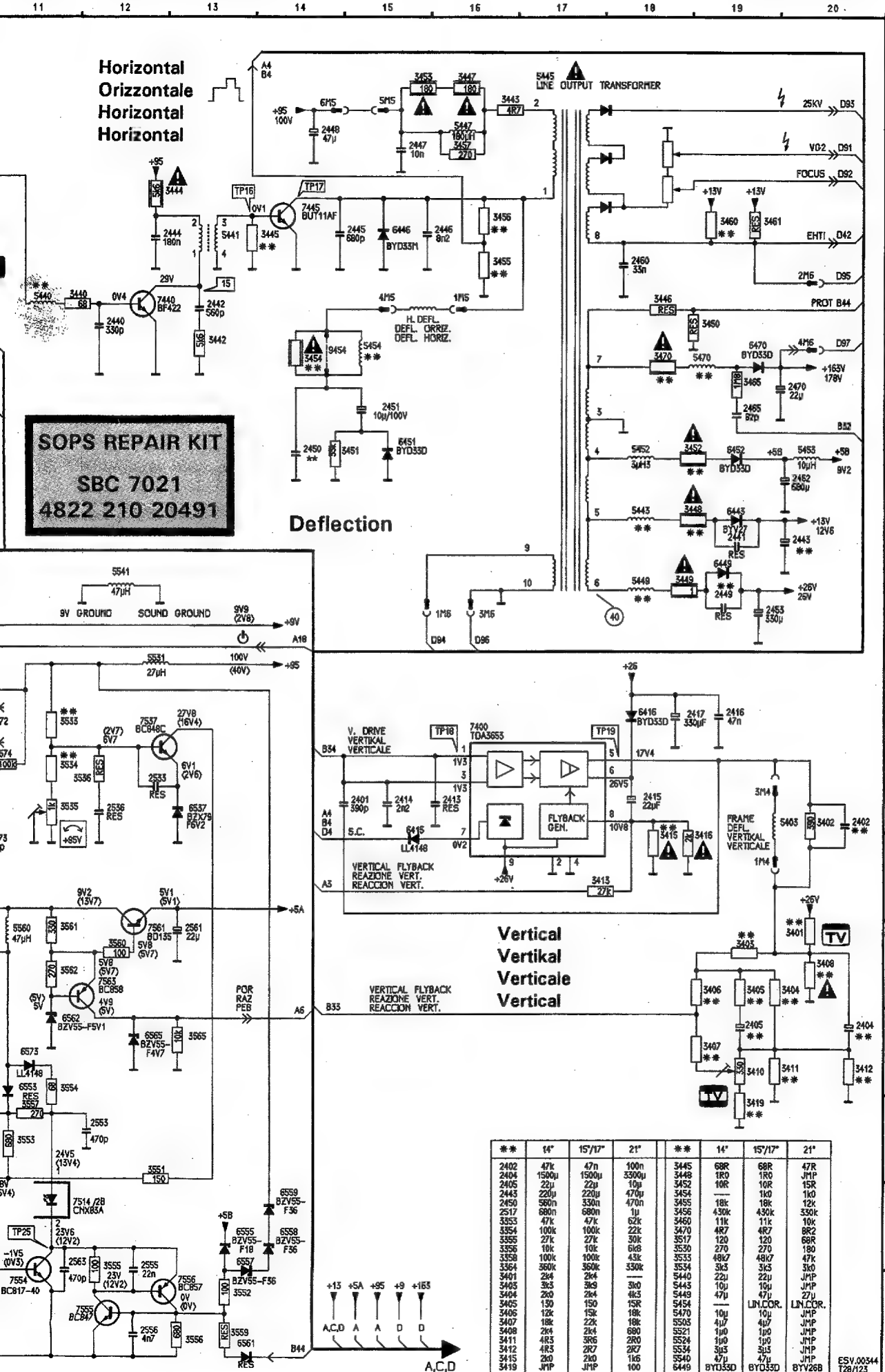



FM-SOUND
IF+SYNC
TUNER
DEFLECTION
EURO
L.O.T.
HOR.
VERT.


4V
1V8
20µs/DIV
TP10
0V
4V2
20µs/DIV
TP11
0V
1V
20µs/DIV
TP13
0V
1V5
5ms/DIV
TP14
0V
115V
20µs/DIV
TP15
-12V
15V
20µs/DIV
TP16
0V
780V
20µs/DIV
TP17
0V
1V5
5ms/DIV
TP18
8V
40V
5ms/DIV
TP19
-2V5
3V5
5ms/DIV
TP20
-4V5
6V
5µs/DIV
TP20
-2V5
3V5
5ms/DIV
TP21
-2V5
6V
5µs/DIV
TP21
-2V5
2V5
5ms/DIV
TP22
-9V
1V2
5µs/DIV
TP22
-3V
4V
5ms/DIV
TP23
-11V
13V
5µs/DIV
TP23
0V
400V
5ms/DIV
TP24
0V
580V
5µs/DIV
TP24
0V
30V
5ms/DIV
TP25
-24V
28V
5µs/DIV
TP25
-260V
300V
5ms/DIV
39
-290V
340V
5µs/DIV
39
-200V
225V
20µs/DIV
40


B
Sync
Synchronisation
Synchronisation
Sincronizzazione
Synchronization
Mains supply
Hauptnetzteil
Alimentazione principale
Alimentation principale
Power supply
SYSTEM 4: PAL BG ;SECAM BGLL'
SYSTEM 5: PAL BGI ;SECAM BGLL'
ONLY FOR REMOTE CONTROL SETS SOLO R.T.
MEASURED IN RESPECT TO MISURATO NEI CONFRONTI

Synchronisation Synchronization



**	14"	15"/17"	21"	**	14"	15"/17"	21"
2402	47k	47n	100n	3445	68R	68R	47R
2404	1500µ	1500µ	3300µ	3448	1R0	1R0	JMP
2405	22µ	22µ	10µ	3452	10R	10R	15R
2443	220µ	220µ	470µ	3454	——	1k0	1k0
2450	560n	330n	470n	3455	18k	18k	12k
2517	680n	680n	1µ	3456	430k	430k	330k
3353	47k	47k	62k	3460	11k	11k	10k
3354	100k	100k	22k	3470	4R7	4R7	8R2
3355	27k	27k	30k	3517	120	120	68R
3356	10k	10k	6k8	3530	270	270	180
3358	100k	100k	43k	3533	48k7	48k7	47k
3364	360k	360k	330k	3534	3k3	3k3	3k0
3401	2k4	2k4	——	5440	22µ	22µ	JMP
3403	3k3	3k9	3k0	5443	10µ	10µ	JMP
3404	2k0	2k4	4k3	5449	47µ	47µ	27µ
3405	150	150	15R	5454	——	LIN.COR.	LIN.COR.
3406	12k	15k	18k	5470	10µ	10µ	JMP
3407	18k	22k	18k	5505	4µ7	4µ7	JMP
3408	2k4	2k4	680	5521	1µ0	1µ0	JMP
3411	4R3	3R6	2R0	5524	1µ0	1µ0	JMP
3412	4R3	2R7	2R7	5534	3µ3	3µ3	JMP
3415	2k0	2k0	1k6	5540	47µ	47µ	JMP
3419	JMP	JMP	100	6449	BYD33D	BYD33D	BYV26B

SK1	H2	3523	J5
SK1	I2	3525	M1
1500	H2	3526	L6
1540	G9	3530	I7
2350	A6	3533	H11
2351	A5	3534	I11
2352	B5	3535	I11
2353	B2	3536	I12
2354	C9	3544	M8
2355	A7	3547	N9
2356	D3	3549	G9
2359	B9	3550	N9
2364	E7	3551	M12
2366	F9	3552	G13
2367	E7	3553	M11
2368	E9	3554	L11
2370	E5	3555	G12
2371	F5	3556	G13
2401	I15	3557	M11
2402	I20	3558	I8
2404	L20	3559	G13
2405	L19	3560	K12
2413	I16	3581	K11
2414	I15	3562	K11
2415	I18	3563	N10
2416	H19	3565	L15
2417	H19	3566	L9
2440	D12	3567	K9
2441	F19	3568	N10
2442	D13	3569	L10
2443	F20	3570	I9
2444	C15	3571	I9
2445	C15	3572	H11
2446	C16	3575	I10
2447	B15	3574	I11
2448	B14	5403	I20
2449	G19	5440	C11
2450	E14	5441	C13
2451	E15	5443	F18
2452	E20	5445	A17
2453	G19	5447	A16
2460	C18	5449	G18
2465	E19	5452	E18
2470	D20	5453	E20
2500	I2	5454	D15
2501	H5	5470	D19
2502	I5	5500	I5
2503	I5	5503	M1
2504	H5	5515	K3
2505	H7	5519	J5
2506	G7	5521	L6
2507	G7	5524	J7
2511	K1	5525	G7
2514	L5	5529	I6
2515	L4	5530	I7
2517	L5	5531	H12
2520	L6	5532	G8
2522	L1	5534	H8
2523	L5	5540	G10
2524	J7	5541	G12
2525	J6	5545	M9
2530	H9	5554	H9
2532	G9	5560	K11
2533	I12	6050	D2
2534	G9	6051	C2
2536	I12	6052	C2
2540	G10	6053	C2
2545	M9	6365	B2
2547	G9	6370	F6
2550	G10	6415	J15
2553	M12	6416	H18
2554	H9	6443	F19
2555	G12	6445	C15
2556	G12	6449	F19
2560	K8	6451	E15
2561	K13	6452	E19
2562	K8	6470	D19
2563	N11	6502	I6
2573	J11	6503	I6
3050	D2	6504	H6
3051	C2	6505	H6
3317	B2	6511	K2
3350	A6	6513	M2
3351	A5	6514	L2
3353	C9	6515	N9
3354	C10	6516	N9
3355	A8	6517	L4
3356	A8	6521	L6
3358	C10	6522	L1
3359	B9	6523	L5
3362	E10	6530	H8
3364	F7	6537	I13
3365	B2	6540	G9
3370	E5	6545	M9
3401	K20	6549	G9
3402	I20	6555	L11
3403	K19	6554	H9
3404	K20	6555	N13
3405	K19	6557	N13
3406	K19	6558	N14
3407	L19	6559	N14
3408	K20	6561	G13
3410	L19	6562	L11
3411	L20	6565	L12
3412	L20	6568	K10
3413	J17	6569	I9
3415	J18	6573	L11
3416	J19	7015	A3
3419	M19	7400	H16
3440	C11	7440	C12
3442	D13	7445	B14
3443	A16	7512	K3
3444	B13	7514	K3
3445	C14	7514	N11
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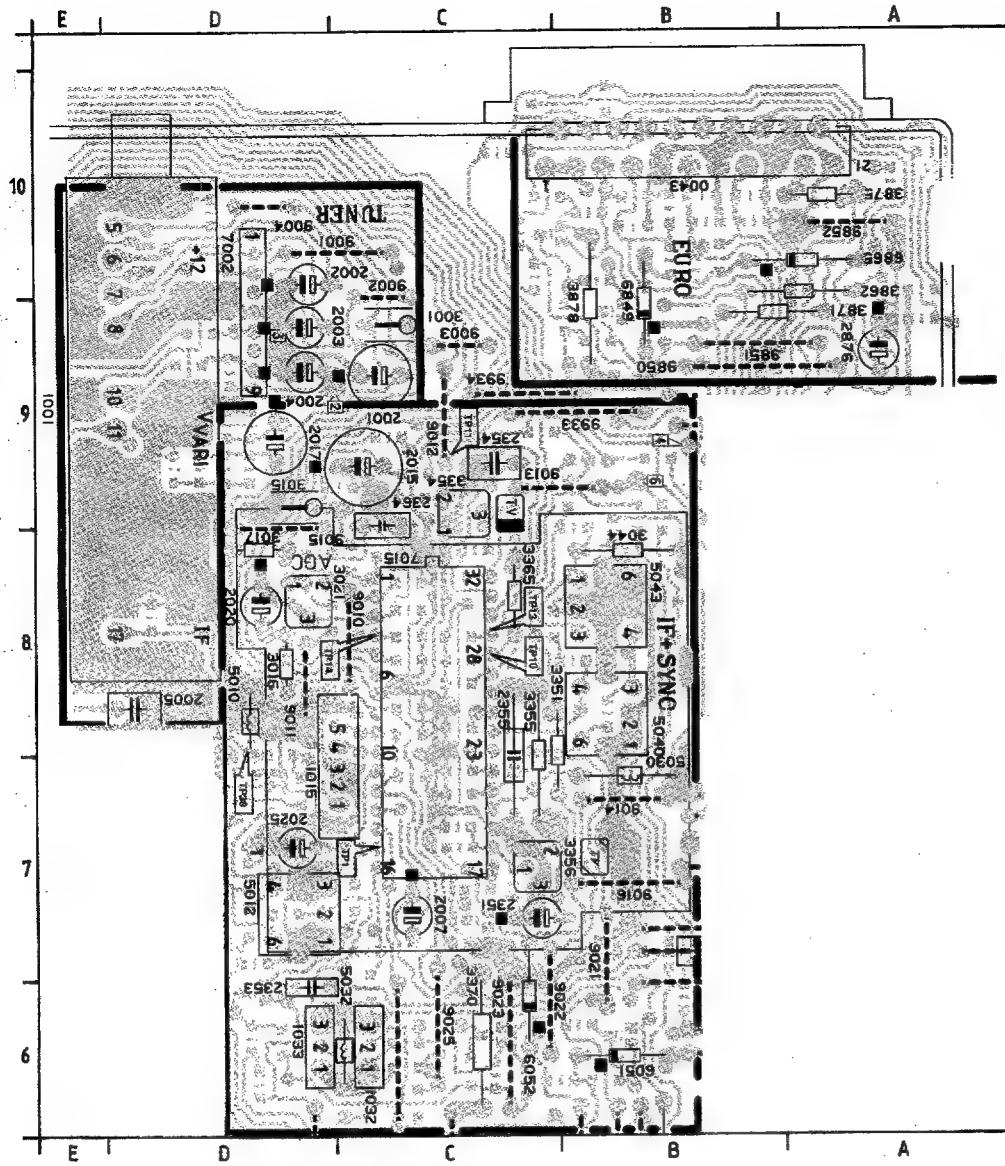
3454	D14	7561	K12
3455	C16	7563	K12
3456	C16	7571	J10
3457	B16	9454	D14
3460	C19		
3461	C19		
3465	D19		
3470	D18		
3501	I4		
3504	J1		
3509	K1		
3510	K1		
3511	K2		
3513	M1		
3514	J3		
3515	J4		
3516	L4		
3517	L4		
3518	J4		
3520	J4		
3520	K5		
3522	K6		

Tuner IF ZF FI Source selection



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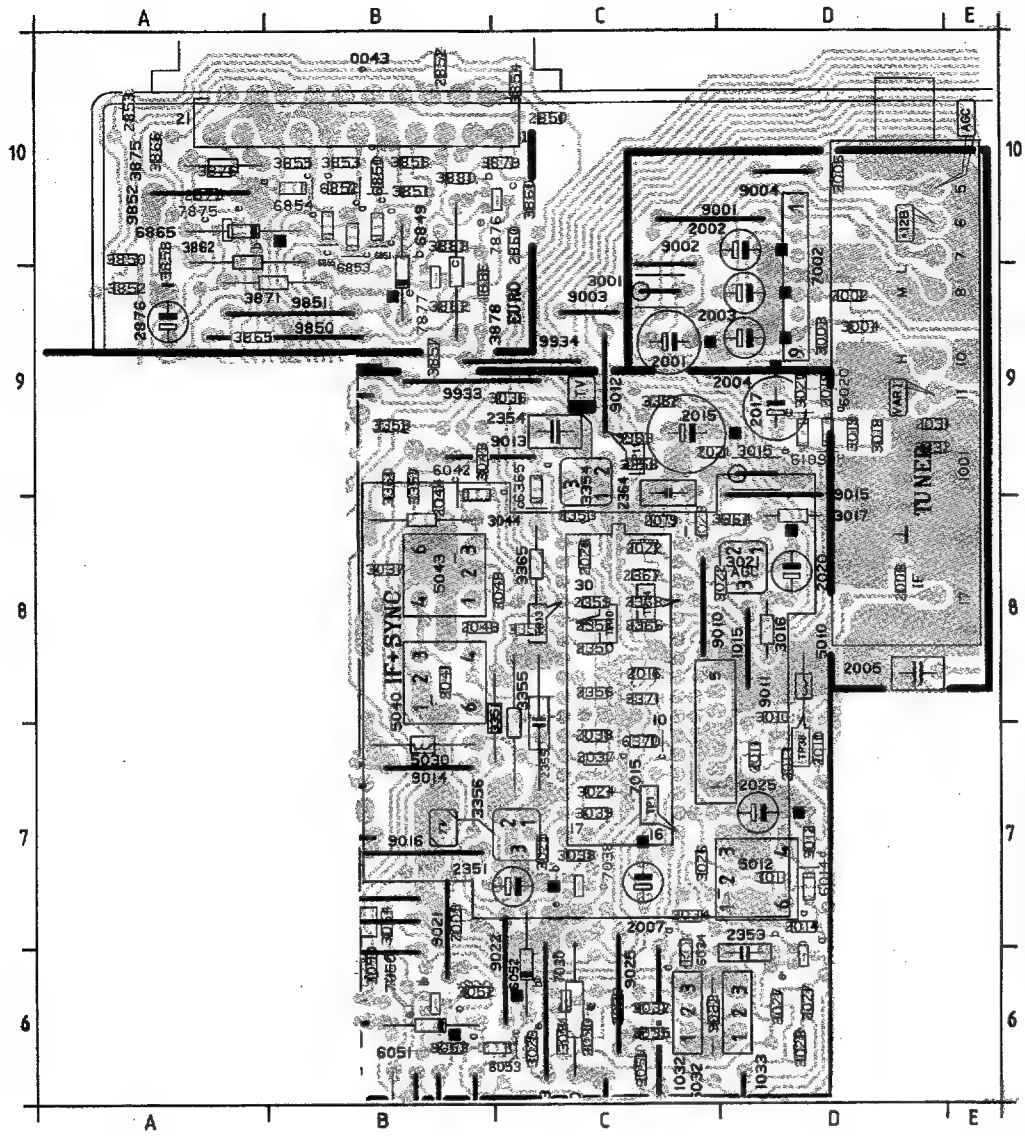
1001	D10	9025	C6
1015	C7	9026	C6
1032	C6	9135	B7
2001	C9	9136	B7
2002	D10	9137	B7
2003	D9	9146	B9
2004	D9	9850	B9
2005	D8	9851	B9
2007	C7	9852	A10
2015	C9	9929	B7
2017	D9	9930	B9
2020	D8	9931	B9
2351	C7	9933	B9
2354	C9	9934	C9
2355	C7	TP1	C7
2364	C8	TP10	C8
3001	C9	TP11	C9
3015	D9	TP13	C8
3016	D8	TP14	C8
3017	D8		
3021	D8		
3044	B8		
3351	C8		
3354	C8		
3355	C7		
3356	C7		
3365	C8		
3370	C6		
3862	A10		
3871	B9		
3875	A10		
3878	B9		
5010	D8		
5018	B7		
5030	B7		
5032	C6		
5040	B8		
5043	B8		
5102	D8		
6052	C6		
6849	B9		
6865	A10		
7002	D10		
7015	C8		
9001	C10		
9002	C9		
9003	C9		
9004	D10		
9010	C8		
9011	D8		
9012	C9		
9013	B9		
9014	B7		
9015	D8		
9016	B7		
9018	B7		
9021	B7		
9022	C6		
9023	C6		

Quellenwahl Sélection de source



0043	C10	3022	D8	5040	B8
1001	D10	3023	C8	5043	B8
1015	C7	3024	C7	5102	D8
1032	C6	3025	C7	6019	D9
1033	D6	3026	C7	6020	D9
2001	C9	3029	C6	6034	C6
2002	D10	3030	C6	6042	B8
2003	D9	3031	C6	6051	B6
2004	D9	3032	C6	6052	C6
2005	D8	3033	C6	6053	C6
2006	D10	3034	C7	6365	C8
2007	C7	3035	C6	6370	C7
2008	D8	3036	C9	6849	B9
2009	B7	3037	B8	6850	B10
2015	C9	3038	C7	6851	B10
2016	C8	3039	C7	6852	B10
2017	D9	3043	B9	6853	B10
2018	D9	3044	B8	6854	B10
2019	C8	3049	C8	6855	B10
2020	D8	3051	C8	6865	A10
2021	C9	3054	B7	7002	D10
2022	C8	3350	C8	7015	C8
2026	C8	3351	C8	7030	C6
2030	C6	3353	C8	7038	C7
2037	C7	3354	C8	7875	A10
2038	C7	3355	C7	7876	C10
2041	B8	3356	C7	7877	B9
2043	B8	3357	B9	9001	C10
2044	B8	3358	C9	9002	C9
2101	D8	3359	B9	9003	C9
2350	C8	3360	B9	9004	D10
2351	C7	3362	C9	9010	C8
2352	C8	3363	C9	9011	D8
2353	D8	3364	D8	9012	C9
2354	C9	3365	C8	9013	B9
2355	C7	3370	C6	9014	B7
2356	C8	3850	A10	9015	D8
2359	C8	3851	B10	9016	B7
2364	C8	3853	B10	9021	B7
2366	C8	3854	C10	9022	C6
2367	C8	3855	B10	9023	C6
2368	C8	3856	B10	9024	C6
2371	C8	3857	B9	9025	C6
2850	C10	3858	A10	9026	C6
2852	B10	3860	C10	9850	B9
2853	A10	3862	A10	9851	B9
2860	C10	3866	A10	9852	A10
2876	A9	3871	B9	9933	B9
2875	A10	3875	A10	9934	C9
3001	C9	3876	A10	TP1	C7
3002	D9	3878	B9	TP10	C8
3003	D9	3879	C10	TP11	C9
3004	D9	3880	B10	TP13	C8
3015	D9	3881	B9	TP14	C8
3016	D8	3882	B9		
3017	D8	3883	B10		
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3019	D9	5010	D8		
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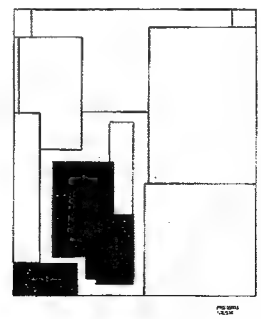
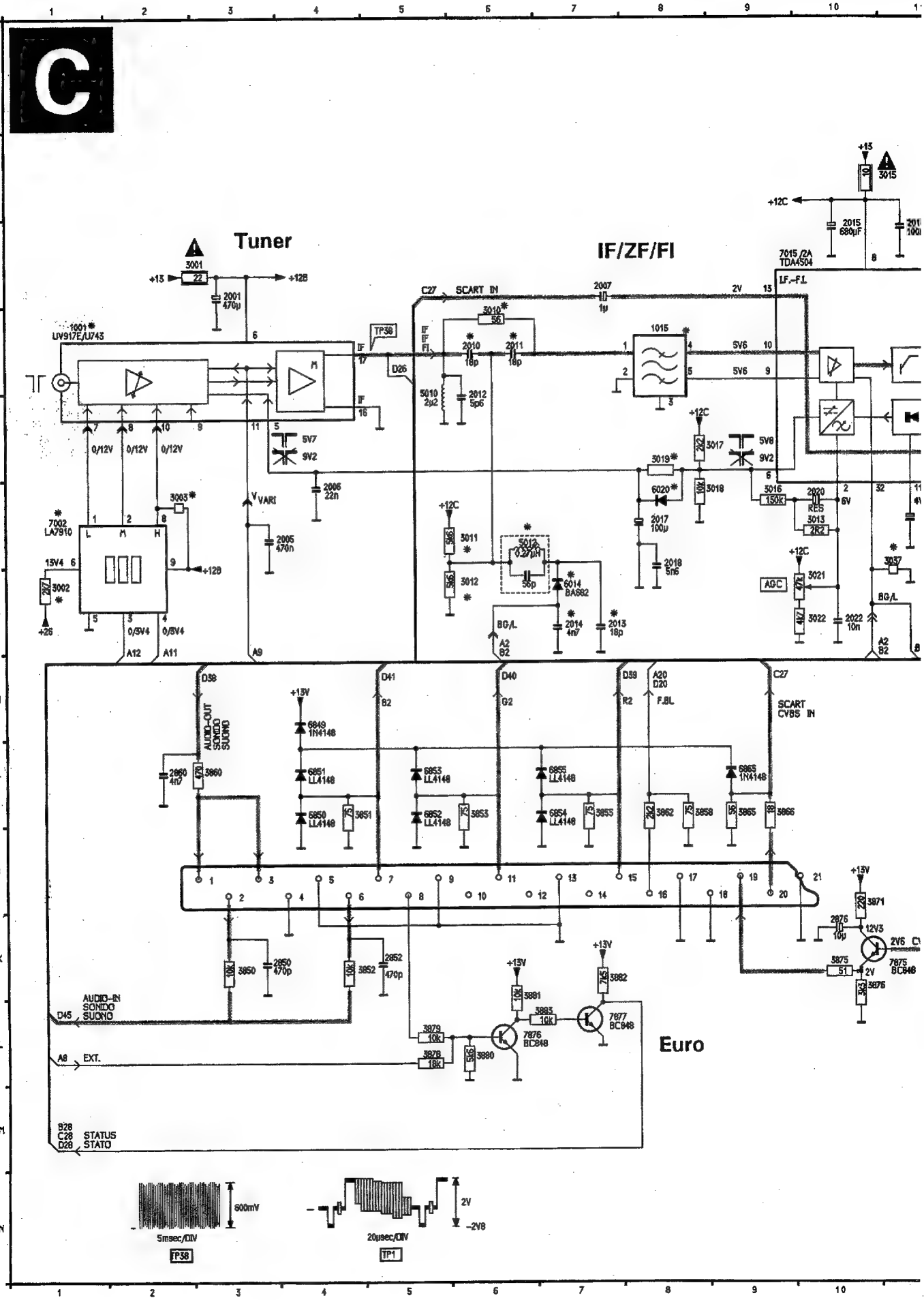
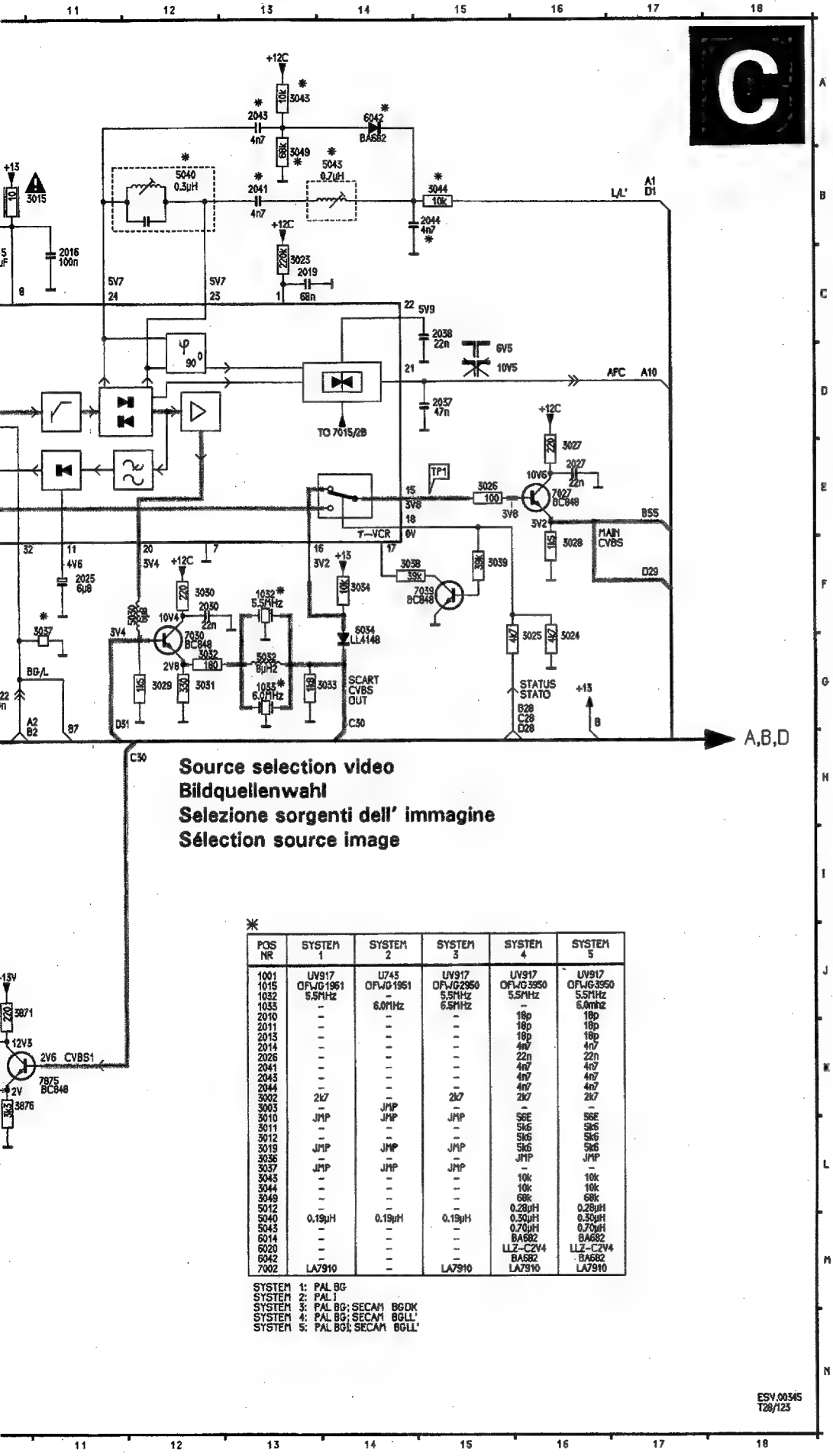
3021	D8	5032	C6		




C
Tuner
IF/ZF/FI
SCART IN
SCART CVBS IN
AUDIO-OUT SONIDO SUONO
AUDIO-IN SONIDO SUONO
EXT.
STATUS STATO
Euro
600mV
5msec/DIV
TP38
2V
-2V8
20µsec/DIV
TP1

Quellenwahl Sélection de source



Source selection video
Bildquellenwahl
Selezione sorgenti dell' immagine
Sélection source image

✳

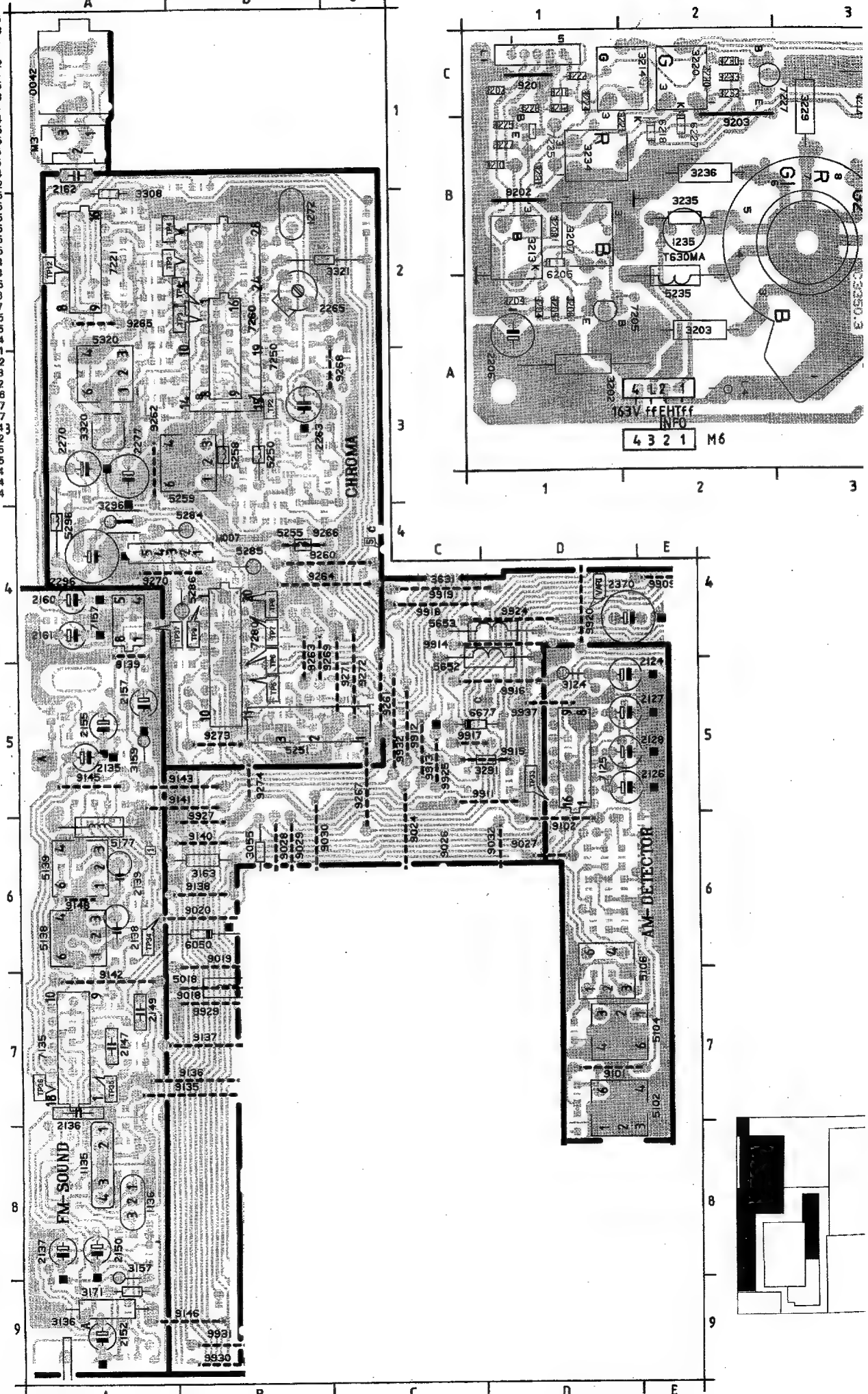
POS NR	SYSTEM 1	SYSTEM 2	SYSTEM 3	SYSTEM 4	SYSTEM 5
1001	UV917	U743	UV917	UV917	UV917
1015	OFWG1961	OFWG1951	OFWG2950	OFWG3950	OFWG3950
1032	5.5MHz	–	5.5MHz	5.5MHz	5.5MHz
1033	–	6.0MHz	6.5MHz	–	6.0mhz
2010	–	–	–	18p	18p
2011	–	–	–	18p	18p
2013	–	–	–	18p	18p
2014	–	–	–	4n7	4n7
2026	–	–	–	22n	22n
2041	–	–	–	4n7	4n7
2043	–	–	–	4n7	4n7
2044	–	–	–	4n7	4n7
3002	2k7	–	2k7	2k7	2k7
3003	–	JMP	–	–	–
3010	JMP	JMP	JMP	S6E	S6E
3011	–	–	–	5k6	5k6
3012	–	–	–	5k6	5k6
3019	JMP	JMP	JMP	5k6	5k6
3036	–	–	–	JMP	JMP
3037	JMP	JMP	JMP	–	–
3043	–	–	–	10k	10k
3044	–	–	–	10k	10k
3049	–	–	–	68k	68k
5012	–	–	–	0.28µH	0.28µH
5040	0.19µH	0.19µH	0.19µH	0.30µH	0.30µH
5043	–	–	–	0.70µH	0.70µH
6014	–	–	–	BA682	BA682
6020	–	–	–	LLZ-C2V4	LLZ-C2V4
6042	–	–	–	BA682	BA682
7002	LA7910	–	LA7910	LA7910	LA7910

SYSTEM 1: PAL BG
SYSTEM 2: PAL I
SYSTEM 3: PAL BG; SECAM BGDK
SYSTEM 4: PAL BG; SECAM BGLL'
SYSTEM 5: PAL BGI; SECAM BGLL'

ESV.00345
T28/123

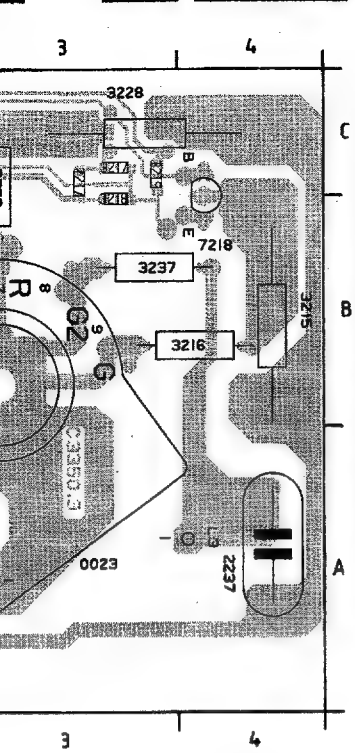
1001 D1
1015 D8
1032 F13
1033 G13
2001 C3
2005 F4
2006 F4
2007 C7
2010 D6
2011 D6
2012 E6
2013 G7
2014 G7
2015 C10
2016 C11
2017 F8
2018 G8
2019 C13
2020 F10
2022 G10
2025 F11
2027 E16
2030 F12
2037 D15
2038 C15
2041 B13
2043 A13
2044 B15
2850 K3
2852 K5
2860 I2
2876 K10
3001 C3
3002 G1
3003 F2
3010 D6
3011 F6
3012 G6
3013 F10
3015 B11
3016 F9
3017 E9
3018 F9
3019 E8
3021 G10
3022 G10
3023 C13
3024 G16
3025 D16
3026 E15
3027 E16
3028 F16
3029 G12
3030 F12
3031 G12
3032 G12
3033 G13
3034 F14
3037 F11
3038 F14
3039 F16
3043 A13
3044 B15
3049 B13
3850 K3
3851 I4
3852 K5
3853 I6
3855 I7
3858 I8
3860 I3
3862 I8
3865 I9
3866 I9
3871 J10
3875 K10
3876 K10
3878 L5
3879 L5
3880 L6
3881 L6
3882 K7
3883 L7
5010 E5
5012 F6
5030 F12
5032 G13
5040 B12
6043 B14
6014 G7
6020 F8
6034 F14
6042 A14
6849 H4
6850 I4
6851 I4
6852 I5
6853 I5
6854 I7
6855 I7
6865 I9
7002 F1
7015 C9
7027 E16
7030 D12
7039 F15
7875 K11
7876 L6
7877 L7

Video Sound Ton Son



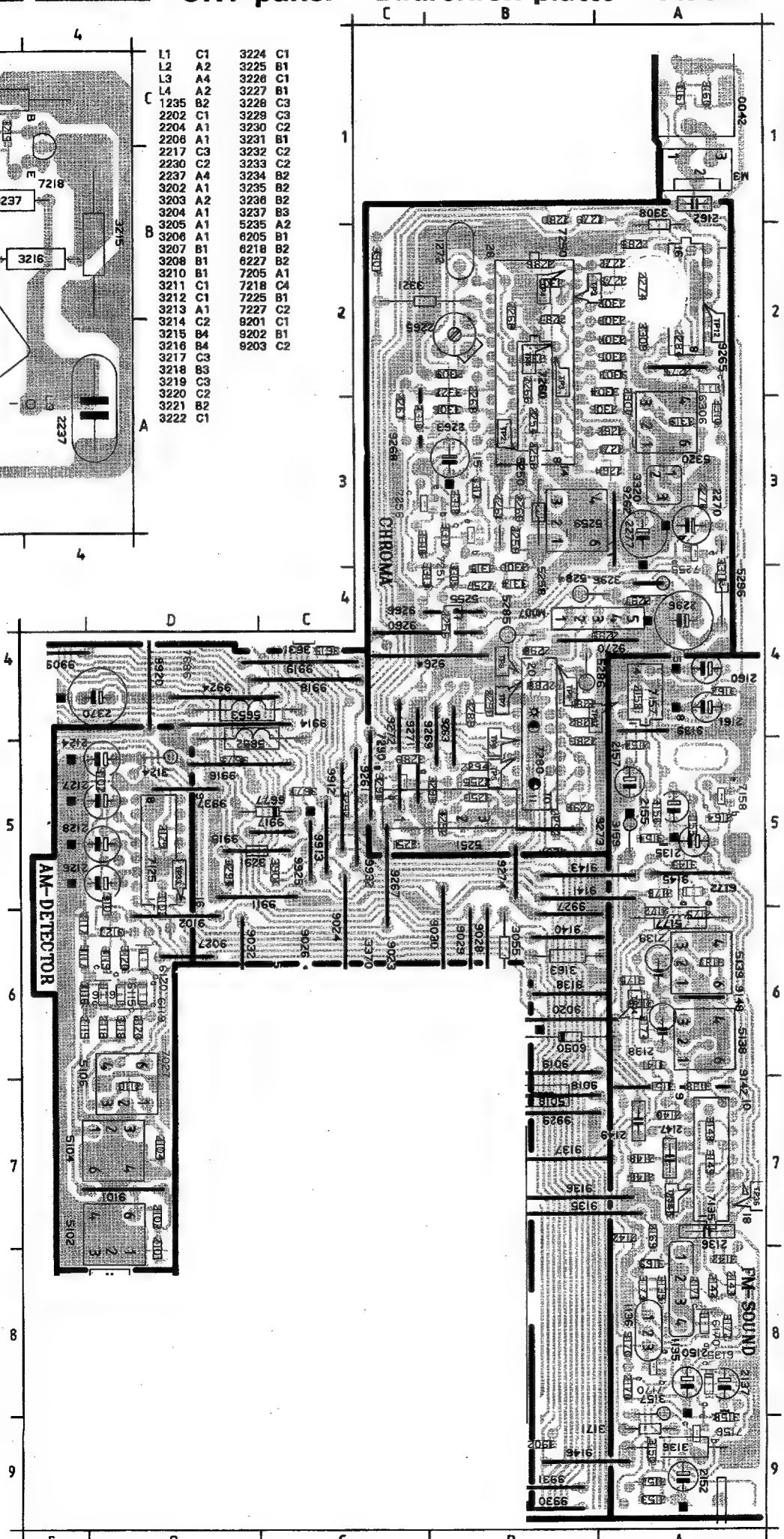
0042	A1	9261	C5
1033	D6	9262	A3
1135	A8	9263	B4
1136	A8	9264	B4
1272	B2	9265	A2
1685	A1	9266	B4
2025	D7	9267	C5
2124	D5	9268	C3
2126	D5	9269	B4
2127	D5	9270	A4
2128	D5	9271	C5
2135	A5	9272	C5
2137	A8	9273	B5
2138	A6	9274	B5
2139	A6	9602	C4
2147	A7	9618	C2
2149	A7	9911	D5
2150	A8	9912	C5
2152	A9	9913	C5
2155	A5	9915	D5
2157	A5	9916	D5
2160	A4	9917	C5
2161	A4	9918	C4
2162	A1	9919	C4
2263	B3	9925	C5
2265	B2	9927	B6
2270	A3	9929	B7
2277	A3	9932	C5
2296	A4	9937	D5
2353	D6	M007	A4
2623	C3	M3	A1
2624	C3	TP12	A2
2629	C3	TP2	B3
2630	C3	TP3	B2
2876	A9	TP34	A6
3055	B6	TP35	A7
3124	D5	TP36	A7
3136	A9	TP37	B4
3157	A8	TP4	B2
3159	A5	TP5	B5
3163	B6	TP6	B5
3171	A9	TP7	B4
3291	D5	TP8	B4
3296	A4	TP9	B4
3308	A2		
3320	A3		
3321	C2		
3606	C4		
3616	C2		
3622	C3		
3623	C2		
3626	C3		
3631	C4		
3652	C3		
3653	C3		
5012	D7		
5018	B7		
5030	B7		
5104	D7		
5106	D7		
5138	A6		
5139	A6		
5177	A6		
5250	B3		
5251	C5		
5255	B4		
5258	B3		
5259	B3		
5284	B4		
5285	B4		
5286	B4		
5296	A4		
5320	A3		
5652	D5		
6050	B6		
6051	B6		
6677	C5		
7125	D5		
7135	A7		
7157	A4		
7221	A2		
7250	B2		
7280	B4		
9014	B7		
9016	B7		
9018	B7		
9019	B6		
9020	B6		
9021	B7		
9027	D6		
9028	B6		
9029	B6		
9030	B6		
9032	D6		
9101	D7		
9102	D6		
9135	B7		
9136	B7		
9137	B7		
9138	B6		
9139	A4		
9140	B8		
9141	B5		
9142	A7		
9143	B5		
9145	A5		
9148	A6		
9260	B4		

CRT panel Bildröhren platte Platine TRC



L1	C1	3224	C1	0042	A1	3053	B6
L2	A2	3225	B1	1033	D6	3055	B6
L3	A4	3226	C1	1135	A8	3101	D5
L4	A2	3227	B1	1136	A8	3102	D5
1235	B2	3228	C3	1272	B2	3103	D5
2202	C1	3229	C3	2010	D7	3118	D6
2204	A1	3230	C2	2011	D7	3119	D6
2206	A1	3231	B1	2013	D7	3120	D6
2217	C3	3232	C2	2014	D7	3124	D5
2230	C2	3233	C2	2025	D7	3127	D6
2237	A4	3234	B2	2027	D8	3135	A8
3202	A1	3235	B2	2102	D7	3136	A9
3203	A2	3236	B2	2104	D7	3137	A6
3204	A1	3237	B3	2110	D7	3138	A7
3205	A1	5235	A2	2118	D6	3141	A6
3206	A1	6205	B1	2120	D8	3142	A8
3207	B1	6218	B2	2124	D5	3143	A5
3208	B1	6227	B2	2125	D5	3148	A7
3210	B1	7205	A1	2126	D5	3149	A7
3211	C1	7218	C4	2127	D5	3150	A9
3212	C1	7225	B1	2128	D5	3151	A7
3213	A1	7227	C2	2135	A5	3152	A9
3214	C2	9201	C1	2137	A8	3154	A5
3215	B4	9202	B1	2138	A8	3155	A5
3216	B4	9203	C2	2139	A8	3156	A5
3217	C3			2140	A7	3157	A8
3218	B3			2142	A7	3158	A9
3219	C3			2143	A8	3159	A5
3220	C2			2144	A8	3160	A1
3221	B2			2145	A7	3161	A1
3222	C1			2146	A7	3162	A4
				2147	A7	3163	B6
				2148	A7	3169	A8
				2149	A7	3170	A8
				2150	A8	3171	A9
				2152	A9	3172	A8
				2153	A9	3173	A8
				2154	A5	3175	A6
				2155	A5	3176	A6
				2157	A5	3251	C5
				2158	A4	3252	B5
				2160	A4	3253	B5
				2161	A4	3289	C5
				2162	A1	3290	C5
				2164	A5	3291	D5
				2169	A7	3292	C5
				2170	A8	3293	B5
				2171	A8	3294	D5
				2172	A6	3296	A4
				2174	A6	3303	A2
				2175	A6	3304	A2
				2176	A5	3305	B4
				2254	B3	3306	B3
				2255	B5	3308	A2
				2256	B4	3309	A2
				2257	B4	3310	A3
				2258	B3	3311	A4
				2259	B3	3312	B3
				2260	B3	3313	B4
				2261	B3	3314	B4
				2262	A3	3315	B4
				2263	B3	3317	B3
				2264	A3	3318	B3
				2265	B2	3319	A3
				2266	B2	3320	A3
				2268	B3	3322	B2
				2269	B2	3606	C4
				2270	A3	3608	D4
				2271	A3	3615	C4
				2272	A2	3631	C4
				2273	A2	3659	D4
				2274	A2	3668	D4
				2275	A2	3675	D5
				2276	A3	3677	C5
				2277	A3	3687	D4
				2281	B4	3688	D4
				2282	B4	3689	D4
				2283	B5	3693	D4
				2284	A2	3852	A9
				2285	A2	3865	A9
				2286	B2	3901	C5
				2287	B2	5012	D7
				2288	B4	5102	E7
				2289	B4	5104	D7
				2290	B4	5106	D7
				2291	B5	5138	A6
				2292	B5	5139	A6
				2293	B5	5177	A6
				2294	B5	5250	B3
				2296	A4	5251	C5
				2297	A4	5255	B4
				2298	B4	5258	B3
				2299	A4	5259	B3
				2300	B4	5284	B4
				2301	B2	5285	B4
				2302	A2	5288	B4
				2303	A2	5296	A4
				2304	A2	5320	A3
				2305	A2	5652	D5
				2306	A3	5653	D4
				2307	A3	6014	D7
				2309	B2	6050	B6
				2321	B2	6115	D6
				2353	D6	6116	D6
				2370	D4	6119	D6
				3010	D7	6120	D6
				3011	D7	6135	A8
				3012	D7	6170	A8
				3027	D6	6172	A5
				3028	D6	6306	A2
				3050	B6	6658	D4
				3052	B6	6677	C5

6679	D4	M003	A1
7027	D6	M007	A4
7050	B6	TP2	B3
7125	D5	TP3	B2
7135	A7	TP34	A6
7156	A9	TP35	A7
7157	A4	TP36	A7
7158	A5	TP37	B4
7170	A8	TP4	B2
7221	A2	TP5	B5
7250	B2	TP6	B5
7251	B3	TP7	B4
7255	A3	TP8	B4
7280	B4	TP9	B4
7290	C5		
7686	D4		
9019	B6		
9020	B6		
9027	D6		
9028	B6		
9029	B6		
9030	B6		
9032	D6		
9101	D7		
9102	D6		
9138	B6		
9139	A4		
9140	B6		
9141	B5		
9142	A7		
9143	B5		
9145	A5		
9148	A6		
9260	B4		
9261	C5		
9262	A3		
9263	B4		
9264	B4		
9265	A2		
9266	B4		
9267	C5		
9269	B4		
9270	A4		
9271	C5		
9272	C5		
9273	B5		
9274	B5		
9602	C4		
9911	D5		
9912	C5		
9913	C5		
9914	D4		
9915	D5		
9916	D5		
9917	C5		
9918	C4		
9919	C4		
9920	D4		
9924	D4		
9925	C5		
9927	B6		
9932	C5		
9937	D5		
M007	A4		
M3	A1		
TP12	A2		
TP2	B3		
TP3	B2		
TP34	A6		
TP35	A7		
TP36	A7		
TP37	B4		
TP4	B2		
TP5	B5		
TP6	B5		
TP7	B4		
TP8	B4		
TP9	B4		



1. Adjustments on the main panel (Fig. 7)

1.1 +100V power supply voltage
Connect a voltmeter (DC) between pin 6 of connector M5 and ground. Adjust potentiometer 3535 for a voltage of +100V (14"-17") or +92,5V (21").

1.2 Horizontal synchronization
Interconnect pins 8 and 28 of IC7015.
Apply an aerial signal and tune the set.
Adjust potentiometer 3356 until the picture is straight. Remove the interconnection.

1.3 Horizontal centring
Is adjusted with potentiometer 3354.

1.4 Vertical centring
Can be adjusted by eventually mounting one of the resistors 3401 or 3408.

1.5 Picture height
Is adjusted with potentiometer 3410.

1.6 Focussing
Is adjusted with the focussing potentiometer in the line output transformer (see Fig. 8).

1.7 IF filter for PAL/SECAM BGLL'- or PAL/SECAM BGLL'I sets
Connect a signal generator (e.g. PM 5326) via a condensator 5p6 to pin 17 of the tuner and adjust the frequency for 33.4 MHz. Connect an oscilloscope to pin 1 of filter 1015. Switch on the set and select system Europe via the system button on the set.
Adjust 5012 for a minimum amplitude.

1.8 AFC

a. Alignments for PAL/SECAM BGLL'- or PAL/SECAM BGLL'I sets
Connect a signal generator (e.g. PM 5326) as indicated in point 1.7 and adjust the frequency for 33.4 MHz. Tune the set in the VHF1 band at a tuning voltage of approx. 5V on pin 11 of the tuner. Select system France via the system button on the set. Connect a voltmeter to pin 21 of IC7015. Adjust 5040 for 6V (DC).
Next adjust the frequency of the signal generator for 38,9 MHz. Select system Europe on the set. Adjust 5043 for 6V (DC).

b. Alignment for PAL BG-, PAL/SECAM BG-, PAL/SECAM BGDK- or PAL I sets
Connect a signal generator (e.g. PM 5326) as indicated in point 1.7 and adjust the frequency for 38.9 MHz (PAL I: 39.5MHz). Connect a voltmeter to pin 21 of IC7015. Adjust 5040 for 6V (DC).

1.9 RF AGC
If the picture of a strong local transmitter is reproduced distorted, adjust potentiometer 3021 until the picture is undistorted.

1.10 Chroma ban
Connect a si
20 of the eu
frequency of
euro connec
IC7250 (+1
of IC7250.
Adjust 525
Remove the

1.11 Chroma sub
Apply a PAL
11 of IC72
(TDA4650)
pattern on t
Remove the

1.12 SECAM den
Apply a SE
oscilloscope
reading.
Connect the
Adjust 332

1.13 The FM sou

a. General adj
Apply a PA
signal whos
a frequency
Set the gen
Tune the se
Europe.
Adjust 513

b. Additional
After the g
generator ir
Adjust 513

1.14 The AM so
PAL/SECAM
Connect pi
+2V by m
Connect a
condensato
the frequer
signal with
Tune the s
France.
First adjust
adjust 510
Adjust the
30,9 MHz.
kHz.
Adjust 51
Remove th

Chroma band-pass filter for PAL/SECAM sets
Connect a signal generator (e.g. PM5326) to pin 20 of the euro connector and adjust it for a frequency of 4,286 MHz. Connect pin 8 of the euro connector and pin 27 of IC7250 to pin 13 of IC7250 (+12V). Connect an oscilloscope to pin 15 of IC7250.
Adjust 5259 for a maximum amplitude.
Remove the interconnections.

Chroma subcarrier oscillator
Apply a PAL colour-bar pattern. Interconnect pin 11 of IC7260 (TDA4510) or pin 17 of IC7250 (TDA4650) to ground. Adjust 2265 so that colour pattern on the screen is practically stationary.
Remove the interconnection.

SECAM demodulators for PAL/SECAM sets
Apply a SECAM black pattern. Connect an oscilloscope to pin 1 of IC7250. Adjust 5320 for 0 reading.
Connect the oscilloscope to pin 3 of IC7250.
Adjust 3320 for 0 reading.

The FM sound section

General adjustments
Apply a PAL BG (PAL I for PAL I sets) generator signal whose sound carrier is (FM) modulated with a frequency of 1 kHz.
Set the generator to the mono mode.
Tune the set and select, if possible, system Europe.
Adjust 5138 for maximum sound output.

Additional adjustment for PAL/SECAM BGDK sets
After the general adjustment (see point a.) put the generator in SECAM DK position.
Adjust 5139 for maximum sound output.

The AM sound section for PAL/SECAM BGLL'- or PAL/SECAM BGLL'I sets
Connect pin 3 of IC7125 to a fixed voltage level of +2V by means of an adjustable power supply.
Connect a signal generator (e.g. PM 5326) via a condensator 5p6 to pin 17 of the tuner and adjust the frequency for 32,4 MHz. Modulate (AM) the signal with 1 kHz.
Tune the set in the UHF band and select system France.
First adjust 5106 for maximum sound output. Next adjust 5104 for maximum sound output.
Adjust the frequency of the signal generator for 30,9 MHz. and modulate (AM) the signal with 1 kHz.
Adjust 5102 for minimum sound output.
Remove the power supply connection.

2. Adjustments on the picture tube panel (Fig. 9)

2.1 Cut-off points of picture tube
Apply a black pattern generator signal. Adjust contrast at minimum.
Adjust brightness until the DC voltage across potentiometer 3213 is 0V.
Adjust 3207, 3220 and 3234 for a black level of 125V on the collectors of transistors 7205, 7218 and 7227.
Adjust Vg2 potentiometer until the gun that first emits light is just no longer visible. Adjust the two other guns with the respective controls (3207, 3220 or 3234) until just no light will be visible.

2.2 Grey scale
Apply a test
normal oper
about 10 m
desired grey

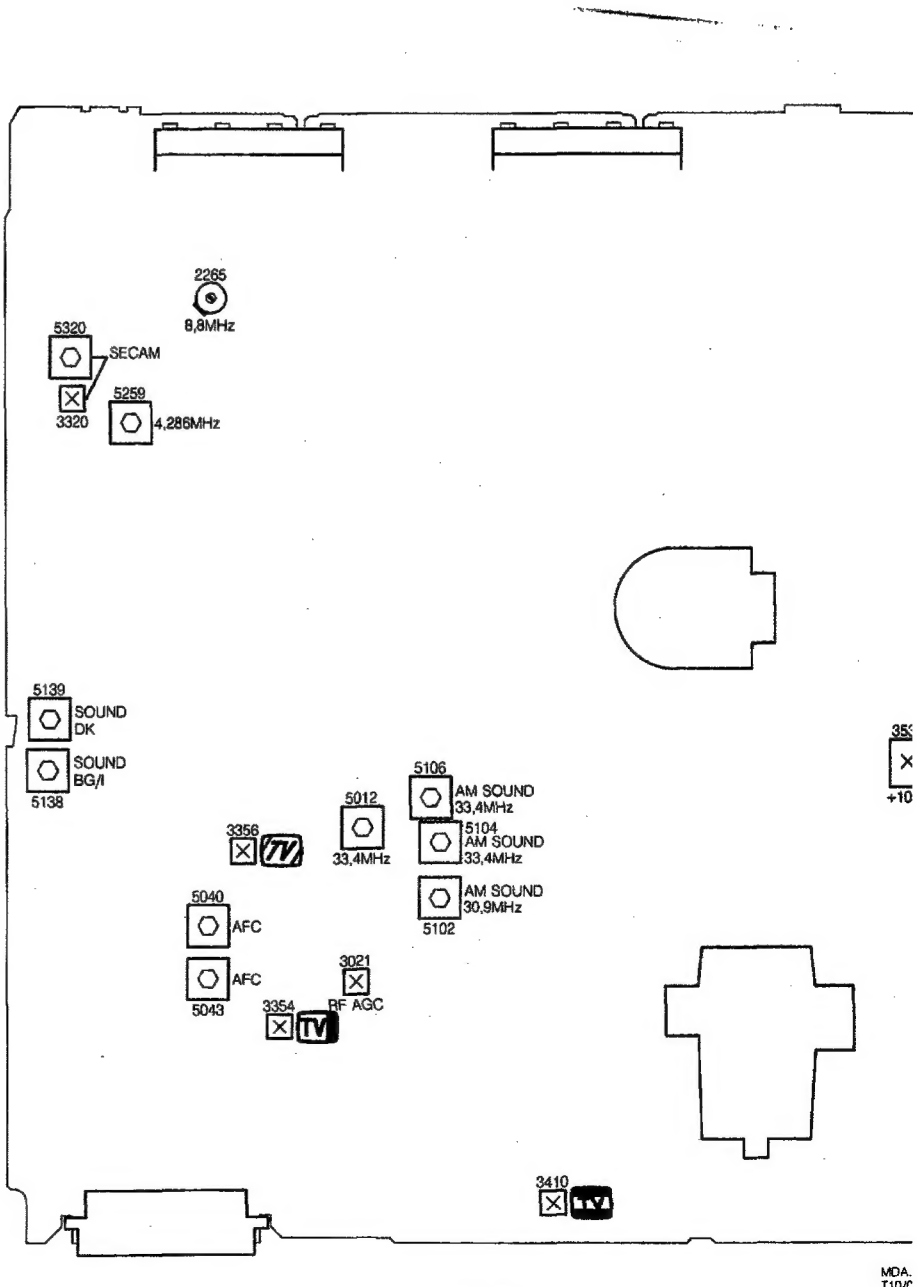


Fig. 7

List of error messages

2 **Grey scale**
Apply a test pattern signal and adjust the set for normal operation. Allow the set to warm up for about 10 minutes. Adjust 3213 and 3214 until the desired grey scale has been obtained.

ERROR MESSAGE	ERROR DESCRIPTION
Flashing LED	Internal μC error
F2 + Flashing LED	EEPROM error

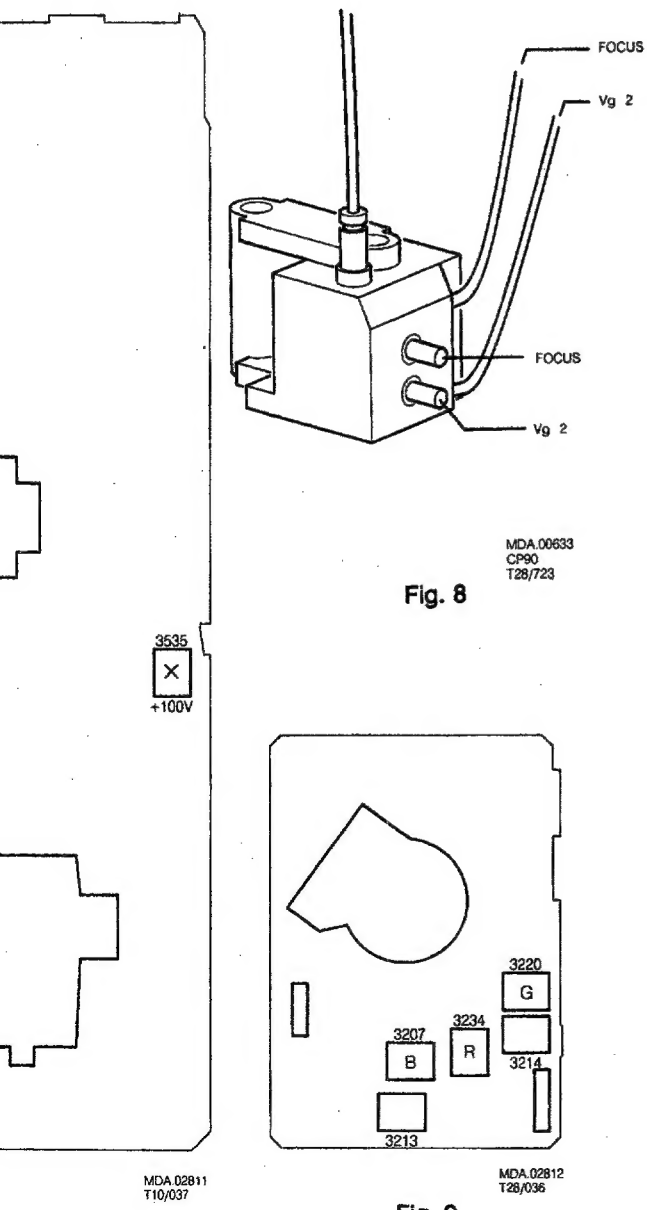


Fig. 8

Fig. 9

List of error messages

ERROR MESSAGE	ERROR DESCRIPTION	POSSIBLE DEFECTIVE COMPONENT
Flashing LED	Internal μC error	IC7600
F2 + Flashing LED	EEPROM error	IC7685

5286	4822 157 60141	3,3µH
5296	4822 157 51462	10µH
5320	4822 157 52808	10µH
5320	4822 157 52808	10µH
5441	4822 146 21116	LOT DRIVER
5445	4822 140 10406	LOT AT2079/40
5447	4822 157 62766	262LYF-0095K
5449	4822 158 10551	27µH
5452	4822 157 51157	3.3µH
5453	4822 157 51462	10µH
5454	4822 156 21332	LINEARITY COIL
5500	4822 212 22978	MAINSFILTER
5515	4822 157 50963	2,2µH
5525	4822 148 81121	SOPS TRF
5529	4822 157 63411	68µH
5530	4822 157 63411	68µH
5531	4822 158 10551	27µH
5532	4822 157 51157	3.3µH
5541	4822 156 20966	47 µH
5545	4822 157 51195	1 µH
5554	4822 157 51157	3.3µH
5560	4822 157 51462	10µH
5601	4822 157 51462	10µH
5652	4822 157 51462	10µH
5653	4822 157 51462	10µH
5677	4822 157 53906	47µH

6014	4822 130 80888	BA682
6020	4822 130 81223	LLZ-C2V4
6034	4822 130 80446	LL4148
6042	4822 130 80888	BA682
6050	4822 130 30621	1N4148
6051	4822 130 30621	1N4148
6052	4822 130 30621	1N4148
6053	4822 130 80446	LL4148
6115	4822 130 80888	BA682
6116	4822 130 80888	BA682
6119	4822 130 80888	BA682
6120	4822 130 80888	BA682
6135	4822 130 80883	LLZ-C4V7
6170	4822 130 80888	BA682
6172	4822 130 80888	BA682
6205	4822 130 80446	BAS32L
6218	4822 130 80446	BAS32L
6227	4822 130 80446	BAS32L
6289	4822 130 80446	BAS32L
6306	4822 130 80954	LLZ-C5V6
6370	4822 130 82304	LLZ-F12
6415	4822 130 80446	LL4148
6416	4822 130 42488	BYD33D
6443	5322 130 31938	BYV27-200
6446	4822 130 32896	BYD33M
6449	5322 130 32967	BYV26B
6451	4822 130 42488	BYD33D
6452	4822 130 42488	BYD33D
6470	4822 130 42488	BYD33D
6502	4822 130 81497	1N4005GP
6503	4822 130 81497	1N4005GP
6504	4822 130 81497	1N4005GP
6505	4822 130 81497	1N4005GP
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6513	4822 130 80446	LL4148
6514	4822 130 80446	LL4148
6515	4822 130 80446	LL4148
6516	4822 130 80886	LLZ-F22
6517	4822 130 31456	BZV85-C5V1
6521	4822 130 42488	BYD33D
6522	4822 130 30621	1N4148
6523	4822 130 80446	LL4148
6530	4822 130 82033	BYD34J
6537	4822 130 34167	BZX79-F6V2
6540	4822 130 42488	BYD33D
6545	4822 130 42488	BYD33D
6549	4822 130 80446	LL4148
6554	4822 130 42489	BYD33G
6555	4822 130 82305	LLZ-F18
6557	4822 130 80887	LLZ-F36
6558	4822 130 80887	LLZ-F36
6559	4822 130 80887	LLZ-F36
6562	4822 130 80905	LLZ-F5V1
6565	4822 130 81252	LLZ-F4V7
6568	4822 130 81147	LLZ-F6V2
6569	4822 130 80446	LL4148
6570	4822 130 20245	SF0R5D43
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6602	4822 130 82037	HZT33
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6679	4822 130 80446	LL4148
6849	4822 130 30621	1N4148
6850	4822 130 80446	LL4148
6851	4822 130 80446	LL4148
6852	4822 130 80446	LL4148
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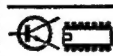
6854	4822 130 80446	LL4148
6855	4822 130 80446	LL4148
6865	4822 130 30621	1N4148



7002	4822 209 10892	LA7910
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7030	4822 130 61207	BC848
7038	4822 130 61207	BC848
7125	4822 209 63105	TDA3843/V2
7135	4822 209 30278	TDA3827/V3
7156	4822 130 61207	BC848
7157	4822 209 60956	TDA7052/N1
7158	4822 130 61207	BC848
7170	4822 130 61207	BC848
7205	4822 130 41782	BF422
7218	4822 130 41782	BF422
7221	4822 209 63108	TDA4660/V2
7225	5322 130 42012	BC858
7227	4822 130 41782	BF422
7250	4822 209 30011	TDA4650/V4
7250	4822 209 30011	TDA4650/V4
7251	4822 130 61207	BC848
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7255	4822 130 42696	BC818-25
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7256	4822 130 61207	BC848
7280	4822 209 63104	TDA3504/V1
7290	4822 130 42134	BC858BR
7400	4822 209 60955	TDA3653B/N1
7440	4822 130 41782	BF422
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7512	5322 130 42136	BC848C
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7552	4822 130 42155	BC327A
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